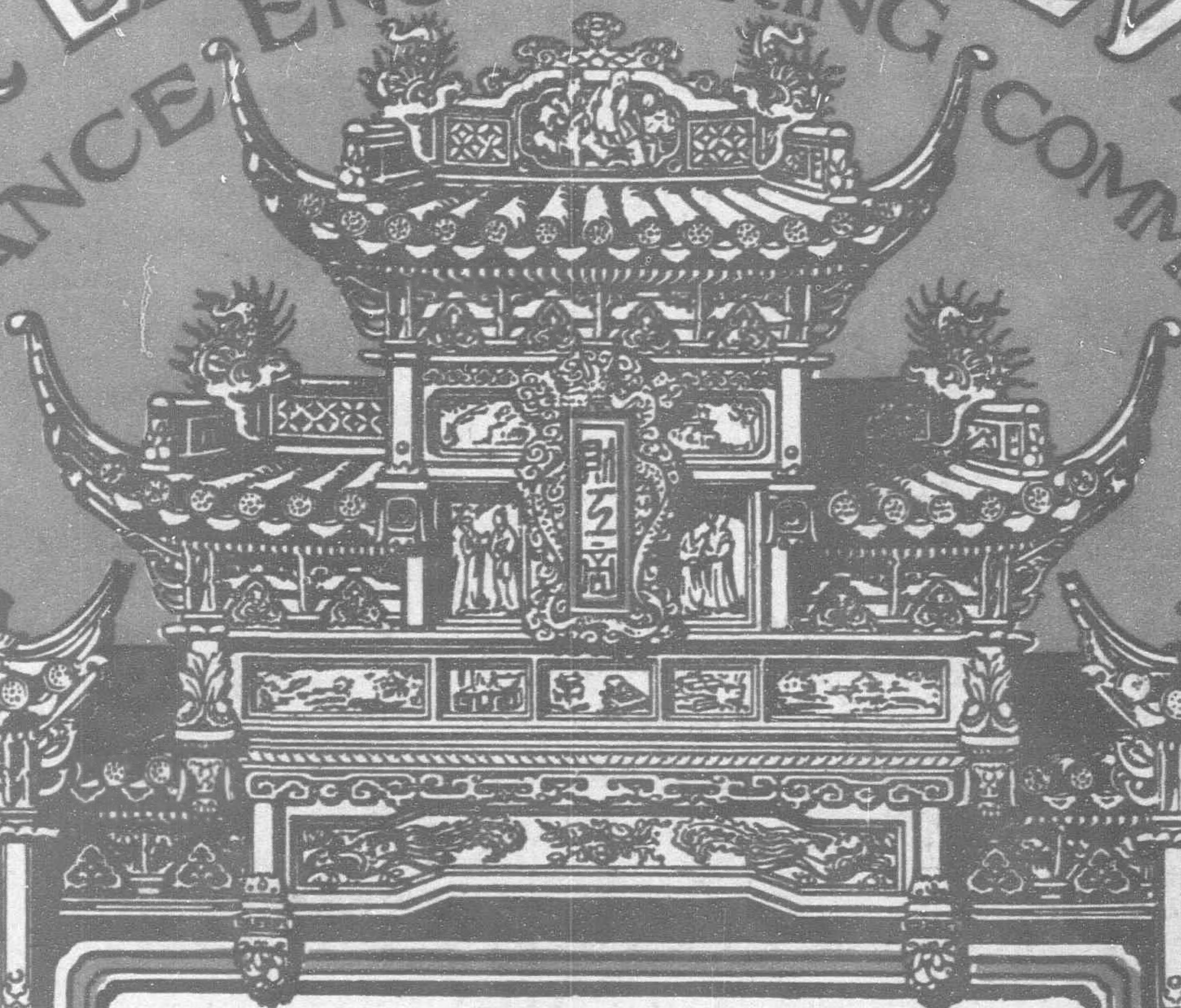


THE FAR EASTERN REVIEW

FINANCE ENGINEERING COMMERCE



RECENT AND CURRENT EVENTS IN MANCHURIA

By HENRY W. KINNEY

AMERICAN - JAPANESE CO-OPERATION

SENATOR HIRAM BINGHAM REPLIES

AMERICAN BUSINESS POLICY TOWARDS
CHINA

PRESENT STATUS OF THE
KUOMINTANG

上海仁記路拾六號

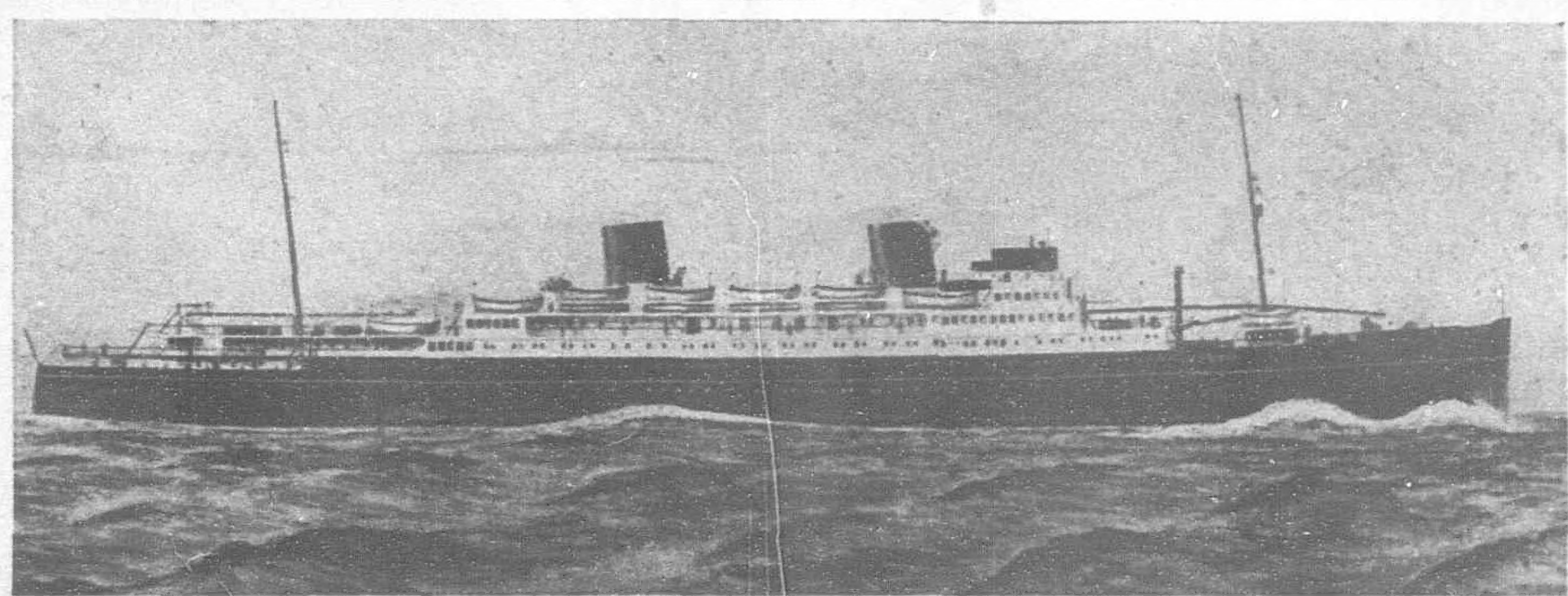
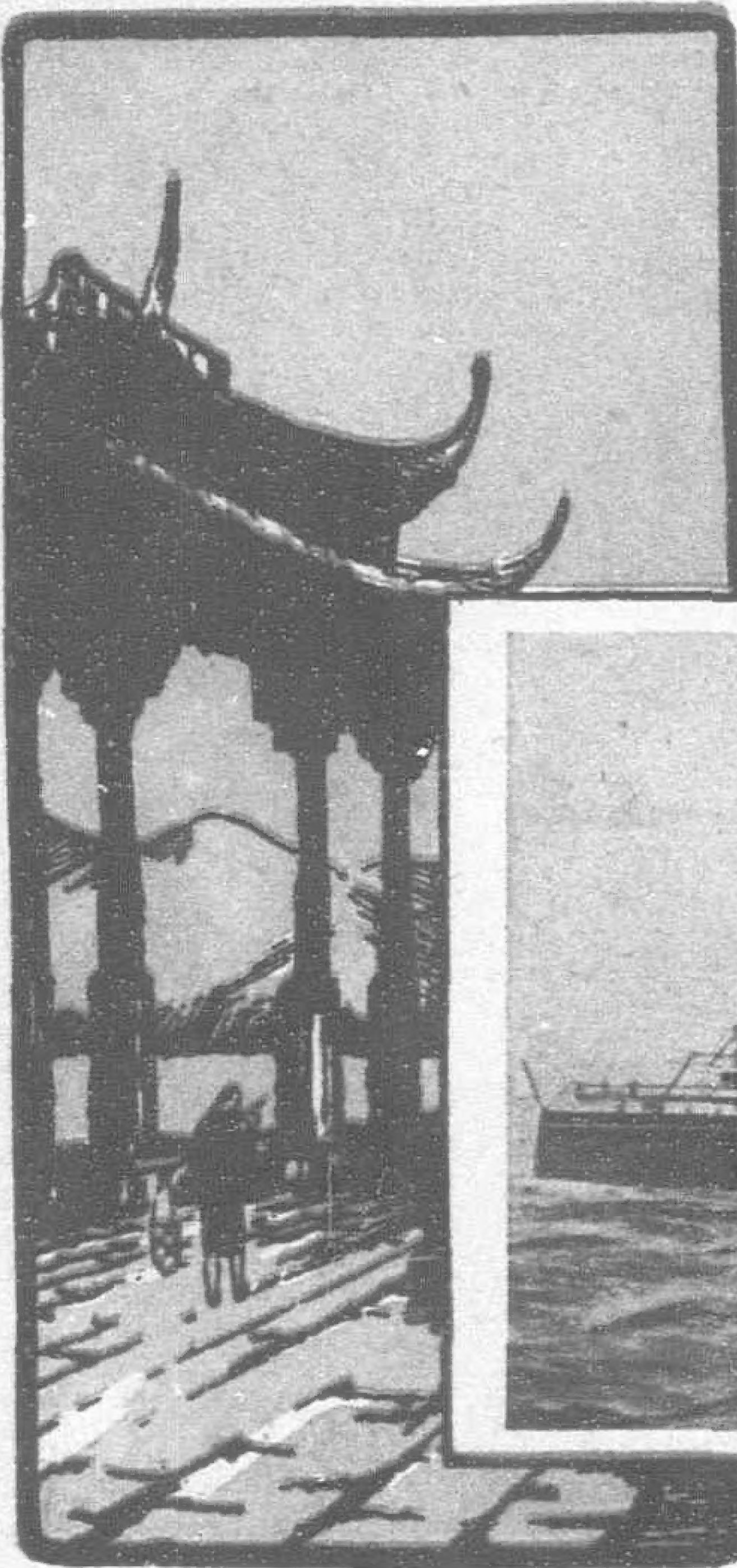
遠東時報

Vol. XXIV

February, 1928

No. 2

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The Far Eastern Review

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No. 2

Recent and Current Events in Manchuria*

By Henry W. Kinney

Immigration

THE year of 1927 has in several respects been an eventful one in Manchuria, but the outstanding feature thereof has undoubtedly been the tremendous increase which took place in the number of immigrants who entered the Three Eastern Provinces from the northern provinces of China Proper. For a number of years past the annual total of such immigrants had been from 300,000 to 400,000. These were almost exclusively males, about one-half or more of whom were merely seasonal laborers who returned to their home provinces in the late fall, when the harvest work had been accomplished. In the fall of 1926 a new phenomenon was observed in that, in spite of the fact that this was the season which in the past had seen no immigration into Manchuria but, on the contrary, emigration therefrom, the number of Chinese arriving continued and even increased. Furthermore, these later immigrants brought their families and chattels, coming with the determination to settle permanently in Manchuria. These people come principally from Shantung, though many also come from Chihli, Honan, and from even more distant provinces. The reasons for this exodus are almost entirely the almost impossible conditions which prevail in the original home regions of these Chinese. Shantung, which the Washington Conference hoped to see prosperous after its restoration to Chinese rule, has witnessed the greatest mass emigration of its inhabitants on record in recent history. Warfare, prevalence of banditry, excessive taxation, and famines have so harried the native population that in desperation those who can find the means to travel at all hasten to seek the benefits of peace and order and the chance for better living conditions which Manchuria offers. The number of the arrivals during the past year cannot be given exactly. They come by steamer or junk, landing at various points, while many of those from Chihli and other northern provinces come overland by train through Shanhaikwan, or walk. Most authorities agree, however, that the total for 1927 must be at least a million.

How Immigrants Settle

The vast majority of these immigrants are practically destitute and carry on their backs all their worldly possessions. Being under necessity of having to work hard and immediately to keep alive, they become producers the moment they find a place on which to settle and thus form an invaluable asset to Manchuria. Every possible care is taken to assist them, the railways giving them transportation at greatly reduced rates, while the Chinese guilds and other charitable organization assist them during the course of their

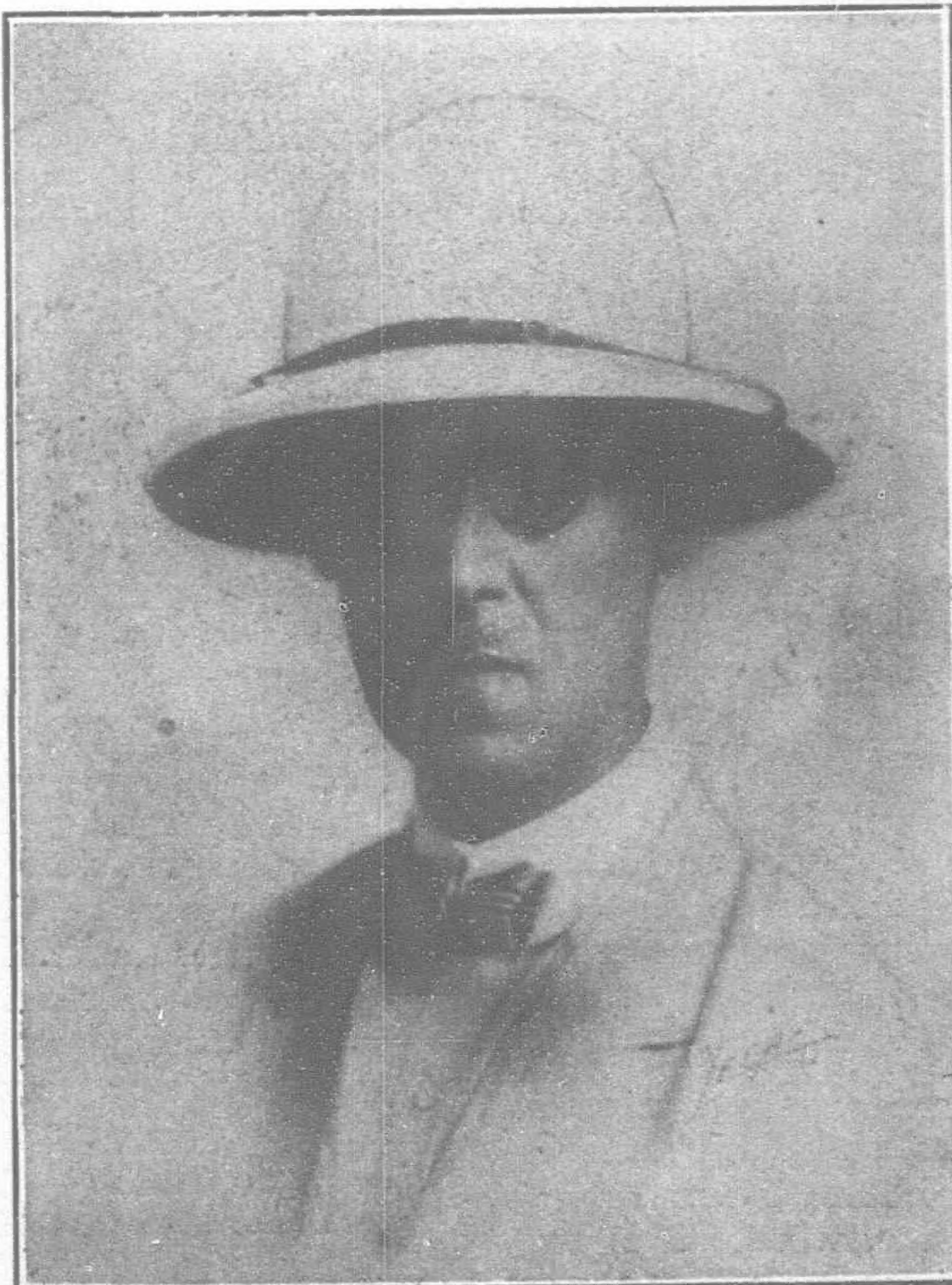
migration. Unfortunately, however, many are so utterly destitute that they walk immense distances, not a few instances being recorded of such persons having walked all the way from Dairen to Harbin, a matter of about 600 miles. Great hardships and even death are suffered; still these desperate hords continue to trek persistently towards the promised lands. Even during the winter, when the frozen soil offers no opportunity for immediate occupation, they have continued to come, in spite of the fact that the Manchuria authorities had sent warnings to Shantung, advising them not to come until Spring. A tendency is also being seen of immigration from South to North Manchuria, such emigrants being usually the younger generation, whose motive is largely desire to escape the heavy taxation in Fengtien.

As most of the land in South Manchuria has already been occupied, most of these immigrants penetrate to the regions along the newly opened railways in North and East Manchuria mainly along the C.E.R. line. Many of them find employment and seek to save sufficient funds to enable them latter to take up land. Others settle immediately on lands which are placed at their disposal by the owners of vast tracts, which are cut up for such settlement. As such owners are usually high officials, they generally clear these tracts of bandits, and in some cases they have even ploughed the lands by means of tractors. This latter feature, namely employment of large scale machine farming somewhat similar to that employed in the United States and Canada, is incidentally an entirely new and probably very significant development, which seems quite successful. The immigrants are usually furnished with seed and very small sums which will enable them to carry on a frugal existence until they may harvest crops, the arrangement with the landlords being usually a crop-sharing contract. For some time past large numbers of Koreans have emigrated into Manchuria, where they engage largely in rice cultivation.

In parenthesis it may be noted that not a few wealthy and prominent Chinese, including ex-governors of provinces, ex-premiers and even ex-presidents of China, come to Dairen to escape from the turmoil in China. Many of them build fine houses there and are thus able from pleasant security to observe the chaos which is wracking their unhappy home-land.

New Railways

The vast impetus given immigration into Manchuria and the consequent rapid settlement of lands opened by new railway line has contributed greatly to the interest which is being taken by all



Henry W. Kinney

*This is a Chapter of a volume on Manchuria by Mr. Kinney which will shortly be issued. Mr. Kinney is a leading authority on Manchuria.

concerned in the development of railways in Manchuria, and this region therefore presents a striking contrast to the rest of China where railways are rapidly going to ruin and where no new construction can take place, whereas in the Three Eastern Provinces new construction and improvement of existing lines is being carried on on every hand.

The Chinchou-Pitzuwo line, a privately owned Japanese line, 63.4 miles in length, running within the Leased Territory, was opened during the past year and will develop a region which is important for its salt production and for the excellent fertility of its soil.

The Mukden-Heilungkiang line, built by Chinese with Chinese capital, was opened in the fall of 1927. It runs a distance of 145.7 miles in a north-easterly direction from Mukden and penetrates a fertile and important region.

Hulan - Hailun — Chinese capital, employing a Russian engineer, built a line, 69.6 miles in length, running from Hulan (Sungpu), a point near Harbin, on the north side of the Sungari River, to Suihua. This line is to be continued, probably during 1928, to Hailun, a point 55 miles north of Suihua, when it will form the Hulan-Hailun railway, which will serve one of the most fertile regions in Manchuria.

The Taonan-Tsitsihar railway has entered into complete operation. This line does, as a matter of fact, not as yet penetrate to Tsitsihar, the capital of Heilungkiang Province, but only to Anganchi, a station on the Chinese Eastern Railway which the Russians for convenience call Tsitsihar. The Chinese intend to carry the line on to Tsitsihar proper, a distance of about 18 miles, which is now covered by a light railway. While the Russians have in the past objected to the crossing of the C.E.R. tracks—which the Chinese propose to effect by means of a bridge—it is understood that arrangements have been made to carry on this work during 1928. It may be noted that this will be done entirely by the Chinese with Chinese capital.

The Kirin-Tunhua line, which will extend a matter of 130.4 miles west of Kirin, is now being built for the Chinese by Japanese contractors. It has been partially completed and is to be finished by the fall of 1928. It presents a difficult piece of engineering, involving several bridges and two large and two smaller tunnels, as it penetrates a very mountainous region which is important for its timber production and as a potential producer of rice.

The Takushan-Payantala railway, running from a point on the Peking-Mukden line, about 80 miles south of Mukden, to Payantala, a town in the Mongolia-Manchuria border region, about 125 miles west of the S.M.R. main line, whence it is also reached by the Ssipingkai-Chengchiatun-Payantala railway, was completed during the fall of 1927. It was constructed by the Chinese

with Chinese capital. The Kirin provincial authorities are preparing to build a railway from Kirin to Hailungchen, where it is to connect with the already constructed Mukden-Hailungchen road, thus forming a continuous line from Kirin to Mukden.

It should be noted that all the railways mentioned above have been or are being built on the 4 foot 8½ inch standard gauge, which is the same as that employed by the other Chinese and Japanese lines in Manchuria, but which differs from the Russian 5 foot gauge used by the C.E.R.

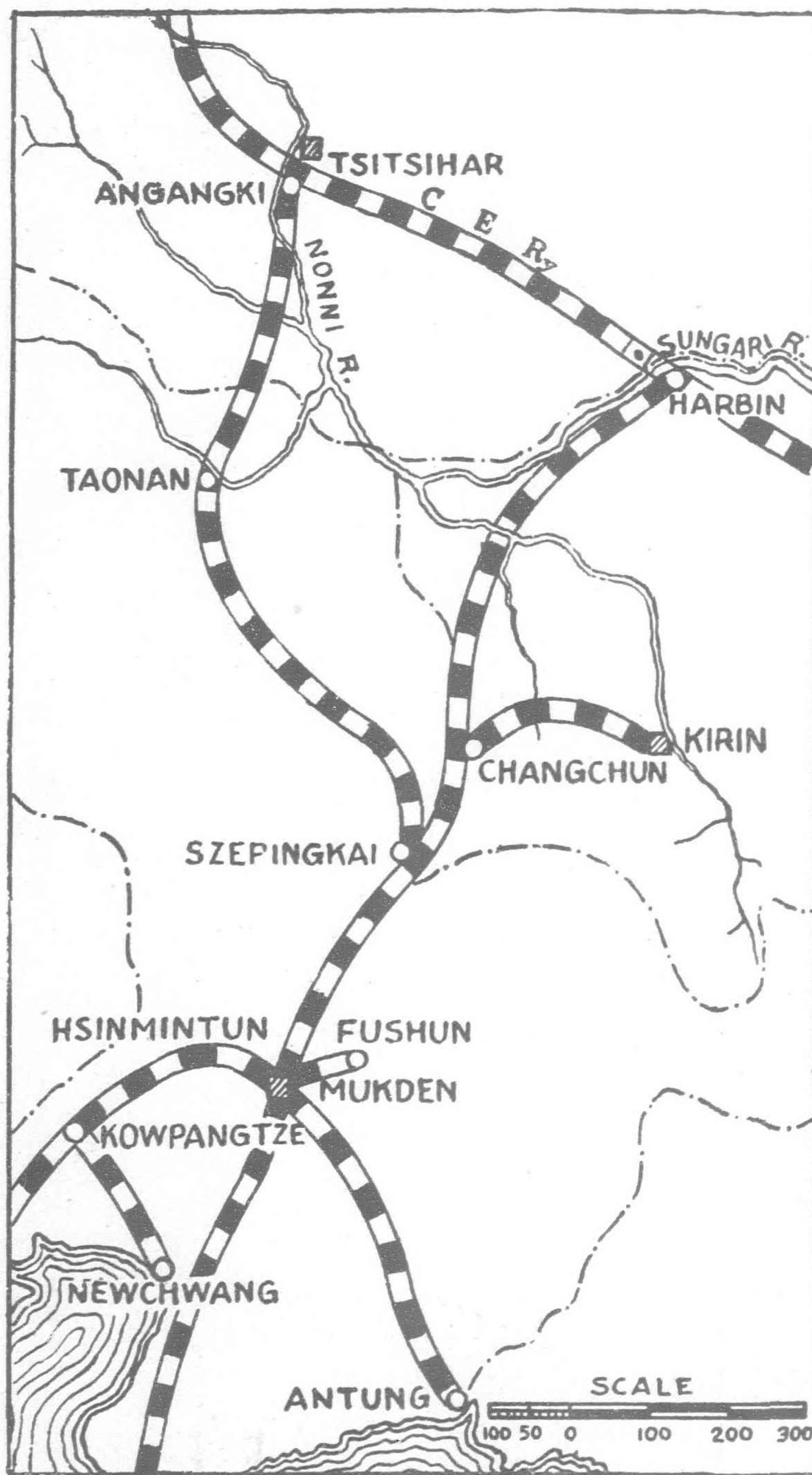
Protests and Competition Question

Railways in Manchuria, as is the case with railways elsewhere, involve economic, political and strategic considerations. Broadly speaking, it may be affirmed that all these railways have mainly economic importance, as they all serve lands which are already economically important, or open great, fertile, but as yet undeveloped regions for settlement by the great hordes of immigrant farmers which are now flocking into Manchuria. All railways are strategic in so far as all railways the world over constitute essential factors in military operations, and those in Manchuria are of strategic importance in proportion to the extent to which one regards Manchuria as a future battle field or not. While the Japanese place by far the greater emphasis on the economic development of Manchuria, which fits in with the determination of Japan to work out her future by means of industrial development, she makes no secret of the fact that in case of a war on the continent of Asia—which she sincerely hopes may never eventuate—Manchuria must form her first line of defense. Similarly, while the Chinese in the construction of their lines are interested mainly in financial gains, they have themselves avowed that they consider it important that the three provincial capitals, Mukden, Kirin and Tsitsihar, be linked by railways of their own, as will be the case if the Kirin-Hailungchen and the short strip from Anganchi to Tsitsihar are completed.

The economic feature is, however, uppermost in the minds of all those involved. The Russians, operating through

their part ownership in the C.E.R., wish to see traffic carried through the port of Vladivostok. The Japanese, to whom it is important that the exports from Manchuria, of which Japan buys by far the greatest share, be carried as cheaply as possible, wish to see traffic go through Dairen—and possibly in future through some port on the Korean coast, by an extension eastwards of the Kirin-Tunhua line. The Chinese wish to see traffic carried over such lines as they have built or may build, though they are hampered through the fact that they possess no port of any consequence.

These considerations lead to the insistence of each of the parties concerned on its acquired rights and interests being observed by the



Taonan-Tsitsihar Railway

A detailed map of Manchuria, China, showing the extensive railway network. Major cities are marked with dots and labeled: Nankiang, Tientsin, Peking, Harbin, and others. The map also shows the Yellow River, the Great Wall, and various mountain ranges. A scale bar at the bottom indicates distances in miles (0, 50, 100, 150).

31.

BLAGOVESHCHENSK
TAHERO
AIGUN
AMUR R.
NANKIANG
TIENTSIN
VERGENI
LUNG'MEN
TUNGPEH
LITTLE KHINGAN MTS.
KOSHAN
PACHUAN
HAILUN
SUILENG
YUKINS
SUIHWA
WANGKUI
LANSI
HULAN
PAYEN
HULAN
PINCOW
TO VLADIVOSTOK
HARBIN
TO MUKDEN
SCALE
0 50 100 150 MI.

TO HANCHOW
TSITSIHAR
ANTHA
CHAOTUNG
CHAOCHOW
NONNI R.

BUREAU OF ECONOMIC INFORMATION

Hulan-Hailun Railway

ive lines, but, as has been shown, the increased production which they will bring about, is bound to find its way out through the best managed lines reaching the best ports, and the Chinese population is sure to be the principal gainer by this development. The great point is that railways must be built to open lands on which the immigrating masses may settle, as without lines to serve the lands to be opened, which will carry away produce and do away with the curse of banditry which prevails where no lines exist, no settlement is possible. The Chinese have during the past few years become tremendously interested in building lines themselves, whereas in the past they had been content to have other nationals do so for them, but their lack of ample capital and credit

Other projects for new railways in Manchuria are numerous, but they can act only as feeders to the main lines reaching the ports mentioned. All concerned, Russians, Chinese, and Japanese, have in mind projects which will serve to develop regions to feed their respec-

ive lines, but, as has been shown, the increased production which they will bring about, is bound to find its way out through the best managed lines reaching the best ports, and the Chinese population is sure to be the principal gainer by this development. The great point is that railways must be built to open lands on which the immigrating masses may settle, as without lines to serve the lands to be opened, which will carry away produce and do away with the curse of banditry which prevails where no lines exist, no settlement is possible. The Chinese have during the past few years become tremendously interested in building lines themselves, whereas in the past they had been content to have other nationals do so for them, but their lack of ample capital and credit militates against their engaging in construction of the large scale which present conditions demand. It seems therefore imperative that foreign capital be employed to co-operate with the Chinese, not only to build new lines but to improve existing lines and develop industries. These latter considerations brought about the consideration of the much discussed negotiations for a loan by the S.M.R. from bankers abroad. Briefly, for the vast scale development of Manchuria the em-

a Railway



Kirin-Tunghua Railway

ployment of foreign capital is desirable. Foreign bankers will not loan such to the Chinese direct, as they have no means of protecting such investments. Such protection can, however, be provided where funds are furnished through the Japanese, who can furnish guarantees satisfactory to the bankers abroad. Japan is interested in Manchuria's development as these provinces can form an important factor in her own industrial development, partly by producing raw material and partly by becoming a market for Japan's manufactured goods. But, as has been shown, the Chinese are the ones who benefit the most, and it may be pointed out in this connection that such lines as have been built through Japanese loans or contracts are Chinese in ownership and are under direct charge of the Department of Communications of Peking, *both nominal and actual management being Chinese*. The same will be the case with new lines built in Manchuria.

The "Open Door"

The loan and development plans above referred to thus planned to bring about co-operation by the Chinese, Japanese, and foreign nations, the participation of the latter being a plain demonstration of Japan's desire not only to keep the "Open Door" open, but to push it still wider. The plan met with opposition by the Chinese, and this leads to consideration of another phase of the Manchurian situation which has very recently come to the fore, namely opposition by the Chinese to Japanese, as well as to other foreign development in Manchuria. This has shown itself in several ways, partly by the imposition of taxation and levies contrary to the treaties, whereby imported goods are charged more than the tariffs legally due; by driving out of Korean rice farmers, whose leases from Chinese landlords had not expired, but who were forced to abandon their homes abruptly under threat of force; by refusal, in some parts, of the authorities to recognize transfers of lands belonging to and sold by foreigners having no extraterritorial rights, where such sales were made to others than Chinese; and in other ways.

The "Positive Policy"

In matters such as these the Japanese, having by far the greatest interests, have been the most seriously affected, and opposition has been manifested in corresponding degree against them, culminating, for instance, in a demonstration against Japan which took place in Mukden during the fall of the past year. It has been reasonably well established that this, as was the case with other phases of anti-Japanese activity, was engineered by the Chinese authorities, and the explanation given has been fear of encroachment on Chinese rights by Japan's so-called "positive policy." This policy contains nothing new, consisting merely in announcement on the part of Japan of a determination to have a settlement reached in respect to many and varied outstanding questions which have been allowed to be procrastinated for many years. Undoubtedly the exaggerated fears of this policy were due to a large extent to erroneous and utterly preposterous statements made by the Japanese press shortly after the accession to power of the Cabinet of Premier Baron Tanaka in Japan. Thus it was stated that a new régime was about to be instituted by which Japan would take positive measures, making the S.M.R. practically a sort of East India Company, whose President would have the title of a consul-general and virtually conduct Japanese policy in Manchuria. These reports were officially denied, and time has shown that they were false, but they have served as a pretext on which opposition to Japanese activities may be based, although the extent and purpose of such activities remain, as they have always been, the

development of Manchuria so that it may help to solve Japan's industrial problem, without any political or territorial aggression being considered.

Economic Drawbacks

Another important feature of the history of Manchuria during the past year has been the absence therefrom of its ruler, Chang Tso-lin, who, with his principal lieutenants, has moved to Peking to operate in the larger sphere of ruling North China, with the hope of possibly eventually uniting China. Manchuria has been fortunate in so far as actual warfare has remained far from its borders. While chaos reigns supreme in the rest of China, the Three Eastern Provinces have continued to advance, increasing in population productivity, railway mileage and various other developments in which Chinese, Japanese and other foreigners have taken part. Good crops have added to this prosperous condition. Still, Manchuria has suffered indirectly, but quite severely from China's wars. In order to meet the tremendous expenses involved in his campaigns in China Proper, it has been necessary for Chang Tso-lin to draw heavily on his prosperous home provinces. This has been done partly

by various imposts and the like, such as have been described, but principally by the issuance by the provincial banks of great floods of paper money, so great that their total is unknown, and which have no, or an infinitesimally small reserve of silver to back them. With these funds the provincial banks engage in a huge and ubiquitous buying campaign, absorbing the bulk of the produce raised, which is then sold for silver, most of which must go to Peking. Private buyers have had slight chance in a competition against buyers who can print their own money as they go along, and as a consequence private business and industry has been decreased disastrously, the worst instance being that of the Mukden paper dollar, the "fengpiao," which two years ago stood at about 1½ to the yen but which now stands at about 13½ to the yen. As a consequence the buying power of the farmer's product, translated into paper dollars, decreases drastically, and import trade suffers. It is one of the best proofs of the phenomenal prosperity of Manchuria that it has not only been able to bear but has progressed under such adverse conditions. But such progress seems virtually inevitable. The vast and fertile regions continue to attract the millions of Chinese war sufferers from China Proper. The situation presented, namely a tremendous area of rich, uncultivated land, lying within a day's journey of an almost inexhaustible labor supply, is probably unprecedented in the history of the world. All that is needed to facilitate this is Chinese co-operation with foreign initiative and capital to



Marshal Chang Tso-lin

turn the almost limitless resources of Manchuria into a refuge for the hapless masses of starving North China so that they may transform this territory into one of the richest and most important of the productive regions of the world.

Japanese Flour Mill for Changchun.—In view of the fine wheat crop in Manchuria and the growing export, the Mitsui Russian Kaisha is contemplating the establishment of a flour mill at Changchun. The 1927 crop is 20 per cent. higher than in 1926. According to estimate the yield along the southern section of the C.E.R. is 175,000 tons, for the eastern section 96,000 tons, for the western section 309,000 tons, for the Hulan-Hailun Railway 198,000 tons, for the Lower Sungari valley 221,000 tons and for other regions 17,000 tons. The price of flour at Changchun has dropped to \$3.05 silver per bag.

American-Japanese Co-operation

A Tribute to the Late Judge Gary

By George Bronson Rea

"WHAT was the Purpose of Lamont's Trip to Japan?" asks *The China Weekly Review* in its issue of November 12. It then goes on to denounce the proposed Morgan loan to the South Manchuria Railway as aiding Japan's intention to close the Open Door in Northern China, drive out American firms and turn their business over to the Japanese. It is a typical anti-Japanese outburst on the part of Mr. J. B. Powell, whose only asset is his hatred of Japan. At all times during the past ten years and with the slightest provocation, this narrow-minded American editor has gone out of his way to calumniate Japan even when the nation was plunged into the deepest grief and distraction at the time of the great earthquake. In the above-mentioned article, he made several references to the work of the Publisher of *THE FAR EASTERN REVIEW*, in presenting the facts about Japanese policy in Manchuria, which he characterizes as Japanese propaganda. Denouncing the Publisher of *THE FAR EASTERN REVIEW*, misrepresenting his viewpoints and activities, is now Mr. Powell's chief stock in trade; his one appeal to certain Chinese factions and their Soviet backers for support. We don't mind it and if it helps him to solicit business for his paper, he has our good wishes for his success. We have survived his secret plots and boycotts for ten years and understand his unethical tactics.

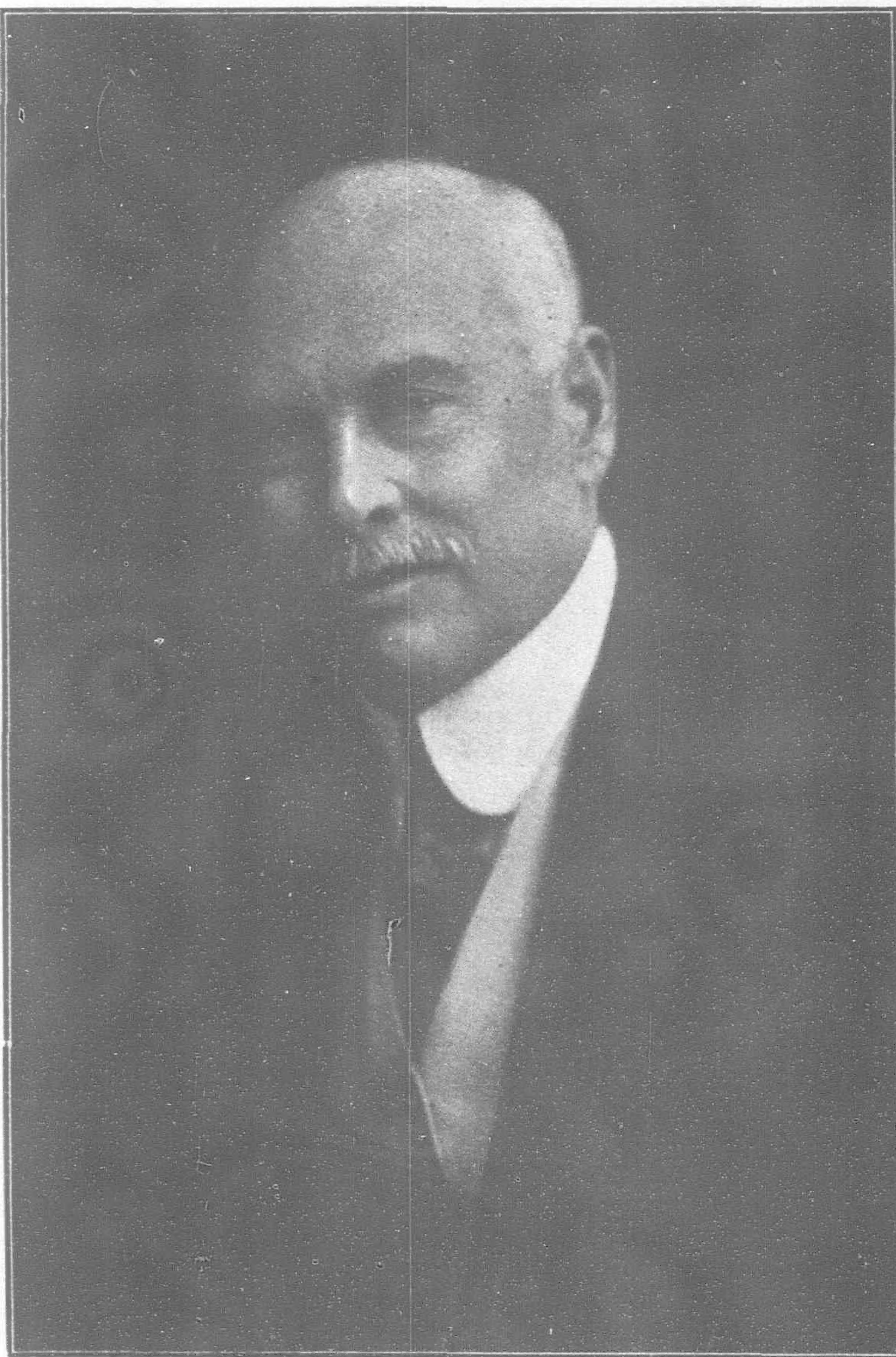
One of the best friends of *THE FAR EASTERN REVIEW* was the late Judge Gary, head of the United States Steel Corporation. *THE FAR EASTERN REVIEW* faithfully adhered to and followed the policies laid down by this great Captain of American Industry for the furtherance of friendly relations with Japan. Mr. Powell, in order to curry favor with his new friends goes out of his way to libel the revered leader of American Industry, who, during his life, stood as the symbol of all that the Soviet detests and is determined to destroy. In view of the new orientation of *The China Weekly Review* since the Sovietized armies of Canton sought to convert China into a dependency of Moscow, it is not difficult to understand the impulses which prompted Mr. J. B. Powell, to pen the following malicious slander:

"This suggestion of lending American money in Japan, for the purpose of enabling Japan to exploit China, originated, we believe, with the late Judge Gary, president of the United

States Steel Corporation. Judge Gary argued that since it was not possible to induce the American Government to adopt strong measures in forcing China to pay her debts, the only way out was to lend Japan the money and let Japan do the pressuring. This, argued Judge Gary, the American investors would be able to obtain good interest rates on their money and America would not suffer from Chinese animosities because Japan would do all the "dirty work" in case China defaulted.

Judge Gary probably figured that if he could get his scheme adopted he might be able to sell millions of tons of steel rails and thousands of bridge forms for future railways which the Japanese might lay down on Chinese soil. But Gary's scheme didn't go through and we see little likelihood of anything similar succeeding to-day."

Judge Gary is dead, but his words and works remain, an everlasting monument to his high character, sense of fair-play and intense Americanism. He spoke not only for the great corporation upon whose prosperity depends to a large extent the welfare of the nation, but for American finance, commerce and industry as a whole. It is inconceivable that the leader of American industry, should voice sentiments so opposed to our traditional friendship for the Chinese people. Judge Gary was never an exploiter. He was one of the first to realize that our national prosperity depended on a square deal to labor. He put into practice what he preached, and to-day the employees of the U. S. Steel Corporation share in its stock and profits and enjoy an old-age or retirement pension. He was concerned first, last and always, with the legitimate expansion of our foreign trade. He was deeply interested in the Orient and made a personal visit there in 1916 for the express purpose



The Late Elbert H. Gary

of obtaining first-hand information of its problems. The record shows that on every occasion where he referred to China and Japan in his public speeches, his words carried a message of good-will, of trust and faith in China's ability to work out her own salvation and take her proper place amongst the nations.

It is true that Judge Gary was a great friend of Japan. He took an active part in the work of the Japan Society of America. He had faith in the Japanese people, in their Government and their leaders of commerce. He was satisfied after personal contact with

these spokesmen for Japan, of their intense and earnest desire for peace and friendship with the United States, for business and financial co-operation that would enable them to solve their problems along peaceful lines. He was strong for such co-operation as the one road towards a permanent peace in the Pacific. He bitterly opposed the campaign that was slowly but surely paving the way for war and denounced those Americans who subordinated the interests of World Peace and the welfare of their own country to their allegiance to a foreign government. Accurately reflecting American public sentiment, Judge Gary at all times declared that the "*People of the United States did not desire, but would deplore and stubbornly oppose, war with Japan, except in self-defense, and that they were of the opinion there is not now nor ever will be any cause for serious trouble or disagreement; that there need be no conflict of opinion which could not be finally and satisfactorily settled by mutual negotiation and consideration.*"

Judge Gary was also an advocate of American Japanese co-operation, but never did he express the opinion that American capital should be loaned to Japan for development in China in order that the investment should be safeguarded by Japanese diplomacy and strong measures. When the question of American Japanese co-operation was first broached in the United States by Baron Shibusawa in 1915, it was favorably received by many of our best financiers. In commenting on this new development before the American Iron and Steel Institute at its semi-annual meeting in 1916, Judge Gary said:

"The subject of Japan's intentions toward China and her possessions is a mooted question in many foreign quarters. From considerable inquiry and study, I conclude Japan sincerely desires that China shall proceed and succeed in the directions I have indicated; that she shall become firmly established as a sound, peaceful, progressive, prosperous and rich government with free and open seaports, transacting an increasing business of every kind, within the limits of her capabilities, with any country and all countries outside her domains, on a fair, just and profitable basis. I am confident Japan would like China for a continuous, permanent, friendly, profitable and satisfied customer, with no political, social or financial difficulties, internal or international. I think we may expect to see, before long, efforts on the part of the Japanese people to cultivate cordial business relations with those in China. I know there are important and influential men in Japan who will actively advocate this course. I am also of the opinion, founded on conversations, that the Japanese will be glad to consult with Americans concerning financial, commercial and even political questions relating to China. Japan and China both wish for close and intimate relations with the United States and are willing to discuss and determine all matters affecting the rights and interests of any, with the purpose of doing justice to themselves and all other nations. The more our statesmen study these questions the more clearly it will appear there need be no irreconcilable differences of opinion."

Judge Gary knew exactly what he was talking about when he made the above statement, as one publication in the Orient could testify to. He entered whole-heartedly into the campaign for better relations between the three countries and in pursuit of these aims lent his powerful influence to obtain American support for a new publication designed to advance the cause of American Japanese co-operation.

Rarely indeed, did Judge Gary make any direct reference to China in his public speeches. He sided with Japan in the controversy over the Lansing-Ishii Agreement, because he recognized that Japan had the same right to formulate a doctrine for her own protection in Asia as the United States had in upholding the Monroe Doctrine. He contended that the language used in the Lansing-Ishii Agreement "cannot be more objectionable to anyone than our claim, from the time of the announcing of the Monroe Doctrine, that the proximity of the United States to other lands in the Western Hemisphere have the United States the right to insist that she has special interests in those countries and that special relations exist."

Commenting further on this theme, Judge Gary said:

"Both Japan and the United States, and other nations as well, are particularly interested in the development of China. Her resources are great; her opportunities for progress are large. Properly managed by a united people, China will prosper. It is to her advantage first, and then to all other

nations, that everything practicable be done to make the most and the best out of the natural resources which China possesses but has not fully developed. Of course, of all outside countries, Japan would have the best opportunity to profit by the progress, prosperity and wealth of China on account of the geographical situations. The United States is not and never will be jealous of Japan in consequence of the latter's natural advantages geographically and otherwise."

Judge Gary's thoughts on the development of China's railways are summed up in the following words:

"One of the principal things needed in China is first-class railways. There are provinces with immense acreages of the most fertile soil and a population of scores of millions, that have no pretension of reasonable facilities for getting to purchasing or consuming markets. If there can be established the basis of credit as already suggested, and as now seems probable, it is to be hoped American capitalists will participate in further loans which will permit the rapid extension of railroad lines, for this will tend to correspondingly increase the volume of general business between the two countries. The people of China who are well posted are desirous of maintaining the most cordial and intimate relations with the business concerns of the United States.... Especially does China need and desire the sympathy and neighborly support of the people of the United States. Here is a great field for operation on the part of American business men which can be cultivated without injury or objection on the part of any other nations and with decided benefit to China herself.... There are men listening to me who will live to see China a great and prosperous nation; rich, powerful and progressive; better than she ever was in her palmiest days; one of the best creditors of and debtors to other countries; and at peace with all the world. I hope and trust she is just now making a successful start in this direction. I have for her the same kindly feeling which so many of her best people undoubtedly entertain towards the United States."

The above statements stand in the record. Judge Gary did not advocate one policy in public and another in private. He stood for clean business, for fair-play and honorable co-operation with Japan as the one solution to our Far Eastern problems; the one guarantee for peace in the Pacific. He believed that "the geographical location of the United States and Japan should make them practically allies although acting independently in their individual capacities and interests." He understood better than any other public man in the United States the underground forces that were making for war, and knew that only by strengthening the ties of commerce and finance could a proper understanding and appreciation of each nation's problems be arrived at. Backed by the most powerful financial interests of the nation; supported at all times by Mr. Thomas Lamont of J. P. Morgan & Company, in his campaign for peace and understanding, Judge Gary won out. American finance accomplished what our diplomacy failed to do. American-Japanese co-operation is now a fact. Over \$500,000,000 of Japanese government and industrial bonds are held by American investors, a guarantee of future peace in the Pacific and of better relations. The march of events has fully vindicated the policies of America's great Captain of Industry. Judge Gary is gone but his work goes on. The seeds of friendship planted at a time when the dark clouds of war loomed on the horizon are bearing fruit.

To the little group of war-makers in the pay of Peking, the name of Judge Gary was anathema. They hated the man whose clear, sound judgment defeated their program. At the head of the rabid anti-Japanese group, yelling and yapping for war with Japan, stood the Publisher of *Millard's Review* and his understudy, Mr. J. B. Powell. While Judge Gary lived, Mr. Powell dared not strike at the great American who stood as the champion of a square deal to Japan, and as one of the truest friends and sympathizers of China in her struggles to achieve unity and prosperity. Judge Gary looked forward to the time when America, Japan and China would understand each other and work together for the advancement of mutual interests in the Pacific. To deliberately misinterpret his views in order to create animosities in China against the corporation he so ably directed, and by so doing, injuring American prestige and trade in that country, is not only a disservice to the United States but to those Chinese who look to this country for counsel and support during the trying period that still lies ahead before they emerge from their tribulations.

Senator Hiram Bingham Replies

SENATOR HIRAM BINGHAM'S reply to Mr. George Bronson Rea's criticisms of his statements provide a very interesting discussion of the question of social relationships between Chinese and foreigners in this country. We have, on several occasions, referred to the problem of the clubs, which is now more economic than it is social. There can be no question but that much of the opposition to foreigners in Asiatic countries arises from what might be termed social inequality between foreigners and Asiatics in Asiatic countries. The air of superiority is everywhere offensive, particularly when it carries with it political implications. It is more than unfortunate that the educated and refined Asiatics have not met with educated and refined foreigners on a plane of social equality in the past, and now we are faced here with the difficulty of solving the problem which has been inherited from the past and for which there is no easy solution. In theory Senator Bingham is perfectly right; in practice what he suggests is difficult to accomplish.

As for the parks of Shanghai, the suggestion of payment at the gate does not offer a feasible solution. Some other way must be found and it will, in due course, be found. The Chinese themselves have no public parks except the one in Peking, to which Senator Bingham makes reference, which does seem to be a successful experiment in the direction of charging an admission fee, but the history of parks in Shanghai precludes such a charge and the solution can only be found when a committee of Chinese and foreigners work together on it.

We publish Senator Bingham's letter in full as a contribution to this problem:—

UNITED STATES SENATE
WASHINGTON, D.C.
December 31, 1927.

Dear Mr. REA,

You have been so kind in your November number as to devote one of your principal articles to the extremely garbled report of the remarks I made at a private dinner in Honolulu last September. You probably know by now that most of the stories which one of the guests related to a reporter some two weeks after the event, were so altered as to be unrecognizable.

However, since you have given so much space to the story originally published, I trust you will permit me to make the following reply to your article.

In the first place you discuss at length the question of admitting orientals to membership in social clubs. That was not the question which I raised. I agree with you that the determination of qualification of membership in any given club is a matter which concerns solely the members of those clubs. What I said at that dinner, and what I have repeatedly said since, was that

it seemed to me ridiculous and foolish to deny to the members of a large social club like the Shanghai Club the privilege of inviting to lunch any one whom they cared to invite, provided of course, that the guest privilege was not abused by inviting any one person more often than seemed reasonable.

It has given me great satisfaction to learn that recently the rules regarding the admission of Chinese as guests at the American Club in Shanghai have been altered so as to permit the guest privilege to be extended to Chinese as it is in our own large city clubs.

With regard to the story about my refusal to accept an invitation to the Army and Navy Club in Manila, you have probably already read that this was a figment of the imagination of the aforesaid dinner guest. My criticism of the Army and Navy Club of Manila was based on a statement made to me by one of the highest government officials that members would not bring Filipinos to lunch with them, no matter how distinguished the Filipinos might be. This, however, has been now denied by the President of the Army and Navy Club who says that Filipinos are welcomed as guests at lunch or dinner, so that I was misinformed. The fact appears to be that although there is no written rule against it, few

Americans venture to contravene the unwritten rule. There is no question, however, that the actual state of affairs leads to deep-seated resentment and unrest.

You have argued against admitting Filipinos to membership in the Army and Navy Club. That question did not arise, although I am frank to admit that I think it is very unfortunate that a club which by virtue of its name has of necessity a semi-official character, should by rules and restrictions make it more difficult instead of less difficult for us to give a satisfactory administration to that distant insular possession.

It is of course difficult to be patient when I read your statement that "Senator Bingham digs up the hoary old story about the parks of Shanghai." It happens that I heard there was no truth in the story about the signs long before I left America, consequently I did not repeat that yarn. Having heard that the yarn was not true I was all the more surprised to find that the fact of non-admission of Chinese still remained. There has been such a tremendous hullabaloo about the falsehood regarding the sign as to lead the unsuspecting reader to believe that the statement represented by the sign was equally incorrect. This as you well know is not the case. On the contrary you argue for the continued exclusion of the Chinese from the parks, basing your argument on the assumption that the only alternative would be the admission of a "rabble of coolies, beggars and lepers!"



Sen. Hiram Bingham

May I suggest that the solution reached in Peking appears to be quite satisfactory so far as Central Park is concerned whereby by charging a very small admission fee, the only Chinese who use the park are Chinese gentlemen and their families. In Peking that plan appears practicable and no one seems to find it "offensive."

It is hard for the superficial observer to see why that is not a good practicable solution to an irritating problem. I made no suggestion as to the free entrance of every one, which as you ably argue, is out of the question. When I have spoken of the park situation to friends in Shanghai or in public remarks I have taken pains to refer to the Peking practice as an alternative which would seem to obviate one of the causes of racial hatred.

Now with regard to the story about the bank. Again let me say that the story as represented by you is a hopeless confusion of mis-statements as to actual events. Your assumption that I actually told the story as the report gave it, with the heading "it cannot be true" comes very near to charging me with a falsehood. Actually for you to say "he now tells the story in order to discredit the only American banking institution in that part of the world" is characteristic of much of the stuff I had to listen to in China. Without waiting to ascertain whether the report was correct or not, you swallowed it whole and then deliberately accuse me of falsehood and lack of patriotism. I leave it to you whether or not this action on your part requires a public apology.

The facts are these. I told no story about the International Banking Corporation or the National City Bank. I did tell a story about a large British bank in Peking which was related to me the day after the incident took place by one of the leading missionary bishops in that city. I also stated that he did not witness it, but was told of it a few hours after it happened by the Chinese treasurer of the hospital to whom it happened.

Furthermore he was not the graduate of Yale, etc., etc. The story about the Yale graduate was with reference to a stupid mana-

ger of an importing house in Tsingtao who declined to permit the Yale graduate to call upon him in his private office although he, himself had repeatedly gone to the private office of the Yale graduate who was at that time the purchasing agent of a large corporation.

The Chinese gentleman who was educated at three schools in America, including one of our leading high schools and one of our best technical schools, whose sons were educated in England and whose daughters in America, had by the stories he told me and the manner in which he told them, first brought to my attention the intensity of the feeling caused by the practice of social inequality in the Far East. It was he who first opened my eyes to the fact that it was not so much the unequal treaties as the unequal treatment that was at the basis of a great deal of the trouble in China to-day.

I am aware of the fact that I have in various articles and signed interviews said a good many things to which you would take exception. I shall be delighted to have you reply to them and criticize them with your large knowledge of the subject. But to have your chief criticism leveled at the things I have not said and points I did not make and things which I did not attempt to do, is to make me trust that in a spirit of fair play you will give this statement as much publicity as you gave to the garbled story from Honolulu.

My only object is to promote good relations between America and China. I have no pride of opinion. I only desire to secure the truth from both sides. I was brought up to like the Chinese, many of whom were family friends. My own country comes first, however, and I am particularly anxious that my countrymen should not increase their own difficulties in China by acting in such a way as to forfeit the friendship and earn the enmity of Chinese gentlemen.

Sincerely yours,

(Signed) HIRAM BINGHAM.

1928

American Business Policy Towards China

WHAT about your business plans for 1928? The point has been made that vast changes in methods of doing business have taken place in China in 1927 and that foreign business men must meet these changed conditions and support the publication which champions the new order of things. All of which may or may not be true, but it has been overlooked that business methods are changing the world over. Other nations have their peculiar ideas and standards of conducting business which must be met by China if profitable commercial intercourse is to be maintained.

Business in China, prior to the recent severance of relations between Nanking and Moscow, were coming more and more under the dictation of the Soviet. Foreign merchants legally residing in China and operating under existing treaties, faced the probability of not only having their properties and stocks confiscated or nationalized, but of being deprived of their treaty rights and driven from the country.

Now the American Government, voicing the unanimous sentiment of the country, holds very old-fashioned ideas about doing business with any people or government which repudiates its just debts and confiscates private property without due compensation. It has gone on record as being unalterably opposed to recognizing any governmental or commercial system based on downright dishonesty. China's one great asset has been the traditional commercial honor of her merchants. Times have changed and that asset has been frittered away as the result of long drawn out civil wars, repudiation of contracts and defaulted payments on loans and merchandise credits. The Chinese Governments now stand on a par with Moscow. Its credit is nil. It will be many long years before China restores confidence in her governmental and commercial

probity. Voicing the overwhelming sentiment of American business, the American Government is determined that American lives and American investments in foreign countries are adequately safeguarded. This sentiment is very succinctly expressed in a resolution of the United States Chamber of Commerce, passed unanimously in 1919. It reads:

"Legitimate American investment abroad is entitled to the same measure of protection in the countries where made that is given by this government to foreign investments in the United States. The United States should enunciate and enforce a firm policy for the protection of American citizens and legitimate American enterprises and investments in foreign lands."

The Chamber of Commerce of the United States is also on record as favoring the resolution of the American Chamber of Commerce of Shanghai asking the American Government to give to its citizens in China protection of their lives and properties during the present disturbed conditions and to adhere to the policies laid down at the Washington Conference in co-operation with the other signatory Powers. It also approves of the policy assuring to American citizens in China the full enjoyment of their treaty rights pending a revision of the existing treaties with some recognized government representative of all China.

The present policy of the United States has hardened along these lines. In his message to Congress on January 10 of last year, the President said:

"It has always been and remains the policy of the United States in such circumstances to take the steps that may be necessary for the preservation and protection of (the lives,

the property, and the interests) of its citizens and of this government itself. In this respect I propose to follow the path of my predecessors. Consequently I have deemed it my duty to use the powers committed to me to insure the adequate protection of all American interests in Nicaragua, whether they be endangered by internal strife or by outside interference in the affairs of the republic."

In an address on April 25, 1927, the President said :

"The person and property of a citizen are a part of the general domain of the nation, (even when abroad.)"

Recently, Secretary Wilbur said :

"To defend America, we must be prepared to defend its interests and our flag in every quarter of the globe.... An American child crying on the banks of the Yangtze, a thousand miles from the coast, can summon the ships of the American navy up that river to protect it from unjust assault."

On another occasion, the Secretary of the Navy said :

"Our trade routes, as well as our international trade, are essential parts of our national life. We are committed to the protection of this traffic upon the high seas."

In further support of this policy, President Coolidge in his last message to Congress, said :

"We have been compelled to send naval and marine forces to China to protect the lives and property of our citizens. Fortunately their simple presence there has been sufficient to prevent any material loss of life. But there has been considerable loss of property. That unhappy country has been torn by factions and revolutions which bid fair to last for an indefinite period. Meanwhile we are protecting our citizens and stand ready to co-operate with any government which may emerge in promoting the welfare of the people of China. They have always had our friendship, and they should especially merit our consideration in these days of their distraction and distress."

The attitude of the Chamber of Commerce of the United States, reflecting the unanimous verdict of the business organizations of the Nation, is furthermore emphasized by its resolution concerning Soviet Russia.

"We endorse the position of our government in refusing to recognize Soviet Russia and pledge the continuing support of organized business in that refusal until Soviet Russia provides adequate assurances of its purpose to maintain its international relations in accordance with recognized standards, with evidence of its intent to redress past wrongs. It is outside to the fundamental moral question to argue that Russia possesses great natural resources with a vast potentiality of trade and industry, or that world capital and world ability ventured in Russia would raise the living standards and the welfare of one hundred and fifty million Russians from their present subnormal level. Such aids can be rendered only on a basis of mutual confidence. Our Government cannot, by recognition, encourage our people to venture persons and property in Russian development while previous seizures of American property still stand without restitution or compensation, nor can it enter into relations demanding mutual respect and confidence so long as there are grounds for suspicion of Soviet propaganda encouraging sedition and disloyalty."

This resolution applies equally to China and it is hopeless for the Chinese to expect that sentiment and sympathy can overrule common sense and the fundamental laws of business so clearly set forth in the above resolution. Political changes in China are inevitable but these changes can never affect the principles of commercial honesty upon which all political intercourse must be based. The American business community in China recognizes the right of the Chinese to modify their political system along any lines which best meets with their peculiar requirements. American business, whether in China or at Home, simply asks that during this period of transition their rights under the existing treaties be maintained until such time as a government representative of a united country can guarantee to it the same security for American lives and properties as are now enjoyed by Chinese resident on the United States. It is not for the American business men to meet changed conditions in China. It is for the Chinese to recognize the new drift of American policy which demands reciprocity in international

relations, a fifty-fifty break that assures to Americans in China the fullest enjoyment of their rights under the treaties.

The Chinese have their own commercial code and ways of conducting business. In the main this code is an honorable one, but their ways of conducting business fail to hold out the necessary guarantees for honest trading demanded by modern commerce. Because of this defect, the foreign trade of China has been, is, and will be, conducted largely by foreign firms until such time as the Chinese adapt themselves to new conditions. Times change; political and business methods undergo modification; but the fundamental laws of commerce endure like the law of the Medes and Persians. The Chinese banker and merchant will find in the long run, that if their cherished nationalism is to be something more than a mere political catch-word, they must adjust themselves to the established rules of world commerce and finance and take over the conduct of their own import and export trade. Until they do this, the foreign trader and banker will continue to live in their midst under treaty guarantees that their lives and properties will be given the same protection and security as the Chinese enjoy in foreign countries.

The Chinese and their advisers may change conditions in China. They may lay down new rules and ways of conducting business, but in the last analysis, the Chinese will have to accept and adopt the Western code of commercial honor and ways of doing business or go under in the struggle for existence. The Chinese have four ways of meeting these modern conditions; they can butt their heads against a stone wall hoping in some miraculous way to preserve their obsolete forms of business; they can bury their heads in the sand, hoping to escape the march of progress; they can intimidate for a time other nations by the threats of boycotts, or, they can change their methods to meet the requirements of modern world conditions.

Before the Chinese can dictate to foreign business, they must first set their house in order. The great need of China to-day is unification under a representative government that will inspire confidence and credit. Capital in large amounts is required to lay the foundation of a permanent peace through disarming and disbanding the soldiery. Capital is needed to reconstruct and re-equip the broken down railway system and build new lines and highways. Further capital is needed to take care of defaulted loans, repudiated contracts and the many claims for damages arising out of the prolonged civil wars. China's credit, which in the old days enabled her to float loans at exceptionally low rates of interest, is gone. It will require many years of hard, up-hill statesmanship and diplomacy for China to recover the confidence of foreign investors. The first step towards this end is for her government or governments to demonstrate a willingness to discharge their duties laid down by international law. This law may not be perfect, but such as it is, China will have to abide by it.

The Nanking Government has shown its good common sense by taking the first step towards rehabilitating the credit and good name of the Chinese merchant by severing relations with Moscow. The American Government may, at times listen attentively and respectfully to the urgings of the sentimentalist and the Uplift element, but it is well for the Chinese to understand that American policy towards their country is based on trade and until American business organizations are satisfied that their rights under the treaties are to be safeguarded under any and all conditions, it is hopeless to expect any change in the policy of an administration, which is, pre-eminently, a business one.

G. B. R.

The Ford Assembly Plant in Yokohama

THE H.K. Ferguson Company of Cleveland is to be congratulated on being awarded the contract for the erection of the new Ford Assembly Plant in Yokohama. This plant will have a capacity for assembling 200 cars a day and will cost \$1,000,000. Work is to be started immediately and it is expected that it will be completed by August of next year. The Ferguson engineers designed and erected the \$10,000,000 plant of the Shibaura Engineering Works at Tsurumi and recently completed some new buildings for the Nippon Electric Company whose works suffered severely during the earthquake of 1923.

China Disregards Treaty Obligations

Baron Tanaka's Speech on Foreign Affairs at the 54th Session of the Imperial Diet

AS Minister for Foreign Affairs, I have the honor to speak a few words on our diplomatic relations with foreign countries.

It is gratifying to note that the relations between Japan and various treaty Powers are growing in cordiality and the work of the League of Nations, in which this country, as a member State, is heartily co-operating, is making remarkable progress year after year.

The Conference of Japan, Great Britain and the United States for the limitation of naval armaments convened at Geneva in June of last year at the instance of Mr. Coolidge, President of the United States, unfortunately failed to achieve the end it had in view despite the zealous efforts of the Powers concerned. In participating in the Conference, the Japanese Government made it their basic principle to contribute to the security of world peace and the lightening of the burdens on the peoples, without losing sight of the safety of our national defence. Our delegates consistently followed this principle and endeavored to assert our claims on the one hand and to harmonize the views of the British and American delegates on the other. I believe that Japan's fair and just stand toward the question of armament limitation and her sincere efforts for the promotion of universal peace at that memorable international gathering were fully recognized by the world at large.

The work of the conclusion and revision of our treaties on commerce and navigation with different countries is now in progress, and I deem it a cause of satisfaction to Japan and the countries concerned that a new commercial treaty was signed by the German Ambassador in this country and myself in July last and a Franco-Japanese agreement concerning residence and navigation in French Indo-China in August last.

As to the relations between Japan and the United States, it is to be regretted that the question of discriminatory legislation against Japanese immigration pending for the past several years still remains unsolved. I should state, however, that the mutual understanding and sympathy of the American and Japanese peoples which are essential to the solution of such questions are gradually increasing.

Our intercourse with the Union of Soviet Socialist Republics, one of our good neighbors, is growing in amity and the divers economic undertakings carried on by our nationals in Russian territory in the Far East also indicate fair progress. Further, the trade between the two countries is marked by gradual development.

As Regards China

I shall now turn to China and express my views on the affairs of that country, in which Japan is most vitally interested. It is most deplorable that the disturbances in China still continue with no prospect of their cessation and her political situation is devoid of stability, thereby adversely affecting in various ways the Powers that are intimately related to that country. Even merely from an economic point of view, this is a matter of serious consequence particularly to Japan which is most closely related to China and, should some people, availing themselves of the chaotic state of affairs there, endanger the lives and property of foreign residents

and sap the foundation of our economic interests which our people have built up in that country by painstaking efforts for many years, we shall on no account tolerate such a situation.

Such being the position we take toward China, it is simply inevitable that, in the event of the Chinese authorities disregarding their treaty obligations and giving no efficient protection to the lives and property of foreigners, we should take self-defensive steps if necessary. It is needless to state that the Japanese Government do not intend to interfere with the domestic affairs of China, but we shall not hesitate at any moment to take a proper measure to insure our rights and interests and to safeguard the lives and property of our nationals in China. The fact that Japan was obliged to despatch troops temporarily for the purpose of protecting her nationals in the district of Tsinan, when the hostilities were about to spread towards Shantung in May last, is attributable to this policy. It was a matter of gratification that as a result the safety of our compatriots residing in that region was assured.

In connection with the developments in Chinese affairs of late, we find a marked tendency in different parts of the country repeatedly to violate treaties in disregard of the protests of the Powers. Action of this character ought to be avoided for the sake of the wholesome progress of the Chinese people themselves and Japan cannot overlook it. Accordingly, the Japanese Government have already taken appropriate measures commensurate with actual conditions.

The foregoing is an outline of the policy of the Government toward China generally. With reference to Manchuria and Mongolia, especially the Three Eastern Provinces, we are inclined to think that, in view of their peculiar historical and geographical relations to this country, it may be necessary for us to take these provinces into special consideration. The Japanese Government hope that these particular provinces will always be kept in good order as a land for safe and peaceful habitation for the Chinese and foreigners alike and will attain proper economic development. Animated by

this desire, the maintenance of peace and order there is the object of their constant attention. In this connection, the Japanese Government particularly wish it to be understood that, as in the other parts of China, they always intend sincerely to respect and observe the principle of the open door and equal opportunity in those provinces and, in pursuance of this principle, are prepared to co-operate with the Chinese authorities and people for the economic development of the region.

No small number of our residents in the Yangtze Valley were affected by the disturbances in the spring of last year and returned home out of the sphere of danger. As, however, later on, things gradually quieted down, the Government considered it necessary to cause them to resume their residence in the district and endeavor to re-establish their economic fortunes and took suitable measures therefor in the shape of the granting of a relief fund and accommodation of capital. It is a matter of congratulation for our country that these steps have contributed in no small degree to the restoration of their economic position.



Baron G. Tanaka, Premier of Japan

New China's Political Bible*

By Hiram Bingham, United States Senator

STUDENTS of contemporary Chinese history and politics are well aware that the late Dr. Sun Yat-sen is held in greater esteem in China to-day than any living statesman or any political philosopher of the past century. Adhesion to his theories has been proclaimed, not only by the Cantonese or "Nationalist" government, but also by the Northern war lords. In many localities, including the Capital at Nanking, every Monday morning services are held in his honor. Obeisance is made thrice to his picture. His parting message is read aloud.

This message or "will," as it is sometimes called, is frequently found painted in large characters on walls or billboards in Southern and Central China. It is not long. It stresses the "imperative" necessity for all his disciples to "do their utmost" to realize "The Three Principles for the People." This is a book by Dr. Sun containing a series of sixteen lectures. It has become a political bible for "Nationalist" China. It is a compulsory text book for every school controlled by the Nationalists. There is no question that its influence has been and is going to be enormous. It is said that quotations and paraphrases of its text occur in almost every political harangue delivered by members of the great Kuo Min Tang, the political society of "Nationalist" China. A recent slogan reads, "'The Three Principles for the People' are the principles for National salvation." Another reads, "To be against 'The Three Principles for the People' is to be a counter revolutionary."

Briefly, the "Three Principles" taught in this book are Nationalism, Democracy and Socialism. With the method of treating the two last we need not concern ourselves. But the first is of supreme importance to all who would understand China of to-day and gauge the trend of China of to-morrow.

Some of the lectures throw a flood of light on some of the causes for the intense anti-foreignism which prevails in China to-day. They also contain certain references to America which ought not to pass unnoticed. Above all they indicate what we may expect of New China.

In the first lecture Dr. Sun calls attention to the fact that the Chinese have not been accustomed to thinking in terms of a Chinese nation, but only in terms of the family and the clan. He says: † "This cohesion with reference to the Family and to Ancestors is very powerful, and they have always been ready to sacrifice even life itself in order to preserve the ancestral unity; as may be seen in the feuds between any two clans in Kuangtung. No matter how much of property or life is given up, they are never willing to cease fighting. This is because of their inordinate attachment to the Ancestral idea. This having entered deeply into their life,

they have been able to uphold it to the point of sacrifice. With reference, however, to the nation, there has never been one instance of such sacrifice."

This appears to be an accurate analysis of the chief reason why it is so difficult to organize anywhere in China a government patterned on Western political ideals. It seems doubtful whether a people who have been for so many centuries unwilling to sacrifice anything for the public welfare and willing to sacrifice everything for the family welfare can be expected to change their racial psychology with sufficient rapidity to satisfy the demands of the modern world. In other words there appears to be little hope of a unified China such as our government is desirous of being able to recognize.

Lest the Chinese might feel equally pessimistic, Dr. Sun calls their attention in the middle of his first lecture to the rise of Japan. He says Japanese have never been conquered and that they have developed into the strongest nation in Asia because they have emphasized the principles of nationalism. "In order to make China strong we must take Japan as a model . . . whatever the white race can do, the Japanese can do also . . . We see that now Japan has risen and as a united people enjoys the honor and prestige of a first-class power, the other peoples of Asia may also be lifted into the position of highly-exalted international relationships. Formerly we thought we could not accomplish the things that Europeans do, but now that Japan has been able to copy Europeans, we are also able to copy Japan. Now that we know we can become like Japan, we also know that we can become like Europe."

All this sounds reasonable and must have a strong appeal for the Chinese. It is not likely that they will take into account the intensely nationalistic character of Japanese racial history for several centuries past.

Again, in Lecture six the possibility of copying Japan is dwelt upon. "If we wake up

like Japan and get back our national position, in ten years' time we can be free from the political, economic and numerical pressure of foreign countries, and from all sorts of evils. Japan has only needed a few tens of years to become one of the Great Powers, but our population is ten times as great, our territory thirty times as large, and our sources of wealth much greater. . . . If China can only copy Japan, it only needs our one country to become equal

*Foreign Affairs.

†The quotations appearing in this article are taken from the *North China Herald*, which has recently been printing an English translation of the more important parts of Dr. Sun's book. The first installment appeared in the issue of September 24, 1927.



Dr. Sun Yat-sen

to ten powerful nations, and when that time comes we shall have recovered our original premier position."

In the third Lecture Dr. Sun says, "In my opinion, it is very evident that the idea of Chinese nationalism has vanished, not just recently, but has been lost now for several hundreds of years."

It is significant that the loss of this "valuable asset by which a country seeks to flourish and by which its people are preserved" is not attributed to racial characteristics. The chief reason for the loss "is because of conquest by a foreign people" and again "the chief reason for the extinction of nationalism amongst us is because we have been subdued by a foreign people." In this case it is the Manchus who are blamed. Although as a matter of fact the leading Manchu Emperors not only deified the Chinese heroes, but they also contributed in great measure to the conservation and study of Chinese culture, literature and art. Judea and India are also held up as countries where the principle of nationalism was lost because they were conquered by foreigners, and yet although the Jews have been without a country for two thousand years, their racial nationalist spirit still remains.

Of Russia, the faithful followers of Dr. Sun are taught as follows: "The Russians . . . have altered the character of their government, abandoning their old policy of military aggression, and adopting one of peaceableness. This new policy not only discards the barbaric method of encroachment on other lands, but it is pledged to the resistance of force in aid of the weak and the execution of justice, so that all nations have come to fear Russia. . . . Even now the nations are much more afraid of her than they were, because this policy of peaceableness has not only destroyed Imperialism in Russia, but will destroy it in every part of the world. More than this, it will destroy Capitalism."

It is significant that there is no reference to the doctrine of "world revolution" nor to the Soviet occupation of large parts of Mongolia. On the contrary Dr. Sun's disciples are told that, "The result of the revolution in Russia has been that the Slavs have determined to restrain the strong and aid the weak, to repress the wealthy and succor the poor, their sole aim being the upholding of justice and the destruction of inequality. This object having been made known all over Europe, the small and weak nations have welcomed it gladly, none more so than Turkey."

It will be news to many that "it is entirely owing to the help given by Russia" that Turkey "although not reckoned as one of the Great Powers is considered as a second or third class power in Europe." Furthermore it was Russia "who came forward in defense of inequality" and "helped Turkey to expel the Greeks and brought about a revision of all the unequal treaties." No wonder Madame Sun Yat-sen recently issued a manifesto reproving the Chinese Nationalists for dismissing the Russians and herself went to Moscow with Eugene Chen and other earnest Chinese communists.

It is significant that again in the fourth Lecture Russia is held up as the savior of mankind and the one hundred and fifty million Russians are quoted as intending to join with the weaker countries of Asia to resist the more powerful nations. Lenin is praised and the reason why the world powers opposed Lenin is stated to be their desire "to destroy the prophets and seers of mankind."

After holding up Russia as the friend of all weak nations Dr. Sun goes on to threaten China with an America of overwhelming magnitude. "When I compare the rate of increase of each nation with the numbers in China I am horror-stricken. Take for instance America which a century ago had only a population of nine million and now has one hundred million. In another hundred years, according to the present rate there will be a billion. . . . Many scholars consider that even if the Japanese or the white races conquered China, they would in the same way all be absorbed into the Chinese nation. This might be matter for consolation were it not for the fact that in a hundred years' time the American people will have increased to one billion, and they will be two and a half times more numerous than the Chinese."

Such a prophecy we know to be quite fantastic and consequently we smile at the thought that America would become so crowded that the American people, outnumbering the Chinese two and a half to one, would move into China as a conquering horde and obliterate the Chinese people and their culture. Yet that is precisely the doctrine taught in the first chapter of this new Chinese bible, and the more Dr. Sun Yat-sen is worshipped the more his words are likely to be accepted as gospel truth.

The conclusion of the first Lecture is that the "reason why other nations do not now take our territory is because they are fewer in number than we. But in a hundred years' time if our numbers do not increase. . . . it will be a case of the larger number conquering the smaller and they will certainly appropriate China. When that occurs, China will not only have lost her sovereignty, but the Chinese will be absorbed by the other peoples, and will also have lost their nationality. Formerly the Mongols and Manchus conquered China, the small number subduing the larger, with the intention of causing the larger number of Chinese to be their slaves. If in the future the Great Powers conquer China, it will be a case of the larger number subduing the smaller but they will not make us slaves, because when that time arrives, we Chinese will not be in a position even to be slaves."

Here is indeed a dreadful picture, painted by the man now most revered of all by the Chinese. Thousands of those Chinese who cannot read this book for themselves have its precepts dinned into their ears by trained agitators and lecturers whose business it is to spread Kuo Min Tang doctrines and to inflame the populace against foreigners and foreign nations.

In the second Lecture Dr. Sun considers the suffering which has come to China from foreign domination and economic pressure which he fears will soon be disastrous to the Chinese race. He sets forth the astounding proposition that if the Chinese people continue to suffer from foreign domination and economic pressure "they may not even last ten years, therefore, these ten years will be a critical time for China." He even goes so far as to prophesy that if some method cannot be found of warding off this foreign domination and economic pressure China will not be able to survive, but will be destroyed.

This is a startling prophecy but "ordinary people are not easily made aware of economic pressure. For instance, China has already suffered from this at the hands of the Great Powers for several tens of years, but up to the present most people are not conscious that every part of China has become virtually a dependency or colony of the Great Powers. . . . The truth is that the economic pressure of the Great Powers has made China, not only a semi-dependency, but one that is in a much worse plight than if she were a real colony. Supposing we are the slaves of one nation only, if there happens any calamity such as flood, drought or fire, the ruling power will provide funds in order to relieve the distress. This will be done from a sense of obligation; as part of its duty. The people who are the slaves will also think it is the duty of the ruling power to succor them. But a few years ago, when there was a famine in North China, not one country considered it an obligation to do its best to provide funds for relief."

This is grossly misleading. No reference is made to the enormous sums which were raised in America and England for famine relief. Obviously those under whose influence Dr. Sun was writing during the latter part of his life did not propose to have any sparks of gratitude kept alive in the Chinese people.

As an example of economic pressure Dr. Sun goes on to call attention to the operation of foreign banks in China. He contrasts the lack of trust in the native banks with the faith put by the Chinese in foreign banks. He makes no reference to the fact that the native banks outside of foreign concessions are frequent victims of forced loans and financial extortion. He makes no reference to their lack of cash reserves and to the foreign banking laws which oblige foreign banks to maintain a system which assures for them the confidence of the depositors. Such statements would only tend to defeat the very object of the Lecture which is to arouse the Chinese against the foreigner by every possible means. He says that when the Chinese banks were first established in Kuangtung, "they issued paper money which was accepted everywhere; to-day that paper money is useless. . . . Chinese notes in former times were not as valuable as foreign ones, but to-day, even Chinese silver is not as good as the paper money of the foreign banks. . . . Just now the number of foreign bank notes circulating in Kuangtung represents several millions of dollars, and the public generally are more willing to keep these than to keep Chinese silver. This applies also to the ports of Shanghai, Tientsin and Hankow. The reason for this is that we are suffering from economic pressure."

It is of course hardly necessary to point out that the notes of the foreign banks have adequate specie reserves back of them, while the notes of the Chinese banks do not; and furthermore the modern Chinese silver coins do not always contain the legal amount of silver, and, therefore, are as "small money" at a discount as

compared with the foreign notes which are payable in full weight silver dollars, or "big money."

Dr. Sun goes on with an argument so astonishing as to lead to grave doubts as to its authorship. He says, "We all have the idea that foreigners have plenty of money, not realizing that they are giving us paper for our goods. They really have not much wealth, and a great deal of it has been given to them, as it were, by us. The money that foreigners use is simply a few millions of printed notes which we accept, and so they possess a few millions of dollars. For every dollar note printed by the foreign banks as currency they expend only a few copper cash; but these notes are given the value of one dollar, ten dollars or one hundred dollars. Thus the foreigners expend only a trifling amount to print notes that represent several millions of dollars, and they give us those in exchange for goods valued at several millions of silver dollars. Think, gentlemen, is not this a grievous loss? How is it that they can print so much paper money, whilst we cannot do the same? It is because we are suffering from the economical disabilities caused by foreign nations, and rely on them rather than on ourselves, therefore our own paper money is not accepted as currency." Was there ever a more specious argument? If it were not for the fact of this paragraph being in the compulsory text book of the Chinese Nationalist Party, required to be used in all the schools, the very basis of the Nationalist movement, it would scarcely deserve a moment's attention. But it forms part of the Chinese political bible.

I should like to call attention to some of the "statistics" whereby Dr. Sun endeavors to prove to his readers the enormous loss China is sustaining, thanks to her dealings with foreign banks and foreign traders. He says: "An examination of the Customs Returns shows that in 1921, the imports exceeded the exports by \$500,000,000, an increase in the ten years of 150 per cent. Calculating on this basis we shall find that ten years hence there will be a proportionate increase. Then the duty on imports will exceed the duty on exports by \$1,250,000,000."

Dr. Sun sums up China's enormous losses as follows: "1.—The invasion of foreign goods, despoiling us yearly to the extent of \$500,000,000. 2.—Foreign paper money coming into our markets; loss on exchange and circulation of funds, all of which rob us of about \$100,000,000. 3.—Additional freight rates which rob us of several tens of millions even up to \$100,000,000. 4.—Taxes, Ground-rents and Land Prices in Concessions and in ceded territory which deprive us of between \$40,000 and \$50,000 (sic). 5.—Monopolies, \$100,000,000. 6.—Speculations and all other kinds of fleecing, which must be several tens of millions. These six methods of economic pressure cause us losses which cannot be less than \$1,200,000,000. Unless there is a way of saving this waste, it will show a yearly increase. Unfortunately there is no principle by which it will lessen; therefore, China has already arrived at a state of impoverishment. If she is not saved, this economic pressure will result in the loss of the country and the extinction of the race. . . . Supposing we had not to render this great tribute, and each year had this fund of \$1,200,000,000, what a lot of things we could do, what wonderful progress as a people we should make!"

It is certainly depressing to realize the importance given in China to a book containing such amazing mis-statements and false conclusions. No wonder the Chinese are endeavoring to drive out the foreigner. No wonder the essence of their teaching seems to be hatred and destruction. No wonder most of their political slogans which are printed by the hundred thousand and posted up on countless walls and billboards begin with the words "Down with."

Again in Lecture five these astonishing "statistics" are brought to bear to prove to the faithful member of the Kuo Min Tang and his followers, that if they do not drive out the foreigner their country will be destroyed and their descendants exterminated. Dr. Sun "proves" that the average adult male who has not reached decrepit old age is obliged to pay every year to the foreigners "a poll tax of \$45" and furthermore, "this sort of tax will go on increasing indefinitely. Therefore, in my opinion if the Chinese don't wake up, but continue the same, even if foreign politicians sleep all the day, in less than ten years China will be destroyed because even now the people are impoverished and wealth is exhausted. You may easily imagine what the poverty of the people will be in another ten years, when the contribution will have to be two and a half times as great. Don't you think China will be destroyed then?"

The argument by which this extraordinary conclusion is reached will amaze the intelligent reader and would not be worth repeating were it not for its place in this important treatise. Dr. Sun says: "China is robbed each year by foreigners of some 1,200,000,000 gold dollars, and the amount seized increases daily. If this discrepancy between imports and exports ten years ago was \$200,000,000, to-day it is \$500,000,000 which means that every ten years it is two and a half times as great. Reckoning according to this proportion, in ten years' time we shall be robbed by foreigners each year of \$3,000,000,000 gold dollars. If these \$3,000,000,000 were divided amongst our 400,000,000 people each year each person would receive \$7.50. Each year each one of us contributes to foreigners the sum of \$7.50; in other words each year each one of us pays a poll-tax of \$7.50 to foreigners. Moreover, of our 400,000,000 people, 200,000,000 are females, and judging by their present circumstances and ability it is very clear that females are not able to pay such a tax. This being so, the males have to take a double share, and every year each man must contribute \$15. Males are divided into three classes, one of which comprises the old and weak and another the very young. Although both these classes are males, yet they are only consumers and not producers, so of course are not capable of contributing such an amount. Now coming back to each male having to pay a poll-tax of \$15 two-thirds of them are not able to do so, and so the whole burden rests upon the middle aged producers who are males. These middle aged male workers must be responsible for the \$15 that the old and young ought to pay, therefore each one of these workers must pay every year a poll-tax of \$45. Just think of it, each one of our middle aged workers having to pay a poll-tax of \$45 to foreign countries, isn't it dreadful!"

It would seem to be quite obvious that if you can make several million men of military age believe that by some hocus-pocus they are being heavily taxed by a foreign power you are likely to arouse their fighting spirit to fever heat. The claim that China is about to be robbed by foreigners each year of three billion gold dollars is so fantastic that if it should appear in any ordinary book, magazine or newspaper it could be laughed off. On the other hand, to find it calmly set forth in Dr. Sun's great "Three Principles" makes it worthy of most serious consideration, especially when the resulting figure of 45 gold dollars a year "poll-tax" which "each one of the workers must pay" is sufficient to buy his food for the entire year. In other words Dr. Sun proves to the worker that the foreigner is taxing him an amount which would provide him with all he needs to eat.

Again Dr. Sun sounds the alarm as follows: "But our nation to-day is in a very difficult position, and will certainly be destroyed in the future, on account of the simultaneous action of the three factors, increase of the populations of foreign nations, political domination and economic pressure. We already fully apprehend the disabilities owing to foreign domination and economic stress, but our own population being large, it is not easy to realize the evils we suffer because of the increase of foreign populations. We shall know very well in a hundred years' time. What a pity that a nation so large as ours has lost its idea of nationality. Because of this, foreign power and economic pressure will break us. As we have already suffered from foreign aggression and economic pressure, and will afterwards be weeded out by the process of natural selection, there is nothing for us but loss of country and the extinction of our race."

So long as a people believe that they are threatened not only with loss of country, but with virtual extinction it is not likely that they will submit tamely to the presence of foreign business men who, as their most revered leader tells them, are going to cause disaster. When one remembers that the chief spiritual idea of the Chinese people is the worship of ancestors, when one remembers that the chief aspiration of every Chinese is to have male descendants who will worship him and provide for his ghostly needs after he is gone, one can comprehend how calamitous, how terrible is the threat of racial extinction. Nothing could possibly arouse the Chinese more than to be told on good authority that in the course of the next few years, or at most in the course of the succeeding century, their progeny would cease to exist, and that there would be no grandchildren and great grand-children to make them comfortable in the next world. Therefore, the linking together of foreign economic pressure and Chinese family extinction is the most clever device imaginable for arousing Chinese sentiment against the presence of foreign traders and the growth of foreign commerce.

In the fifth lecture the threat of racial extinction, unless nationalism is obtained, is again set forth. "If we do not really know that we need to regain our nationalism, then we are forever without hope, and before long the Chinese race will be exterminated." The critical situation of China is described and the attitude of the Great Powers is painted in dismal colors. "Any strong country in the world can destroy China. How is it then that China has been able to survive up to the present? The reason for China's survival up to to-day, is not because she has strength to resist but because the Great Powers in their desire to conquer China try to over-reach each other and none is willing to give way. . . . The Great Powers still wish to conquer China, but they consider that if they try to do it merely by military force, it may mean the beginning of a war like the Great European War of a few years ago, which will result in defeat and loss on all sides and no benefit to anyone."

Dr. Sun says that the object of the Washington Conference (where so much was actually done for China, of which no recognition whatever is made here), while ostensibly the limitation of armaments, was really to make an arrangement about "how to divide up China's rights and privileges without coming into collision with each other." He continues: "When the Washington Conference was held, China appointed delegates and the subjects discussed relating to China were manifestly for the benefit of China. But not long after the Conference, the newspapers of all countries reported a 'united control'; and this talk of united control become daily more common. The unanimous decision of all countries was to devise a satisfactory method of destroying China." It is evident that Dr. Sun did not propose to leave one stone unturned in his effort to destroy any lingering regard for America.

"To-day the two strongest countries in the world are Britain and America, but they are not the only ones; there are several. These are called the Great Powers. Unfortunately the character and ideas of these Great Powers up to the present have not changed. It may be that in the future Britain or America will be able to destroy the other nations, and become an independent power. When that times comes, China may be conquered by Britain and the Chinese will become British subjects."

It is natural that under the influence of Bolsheviki Dr. Sun should have taken pains to draw a vivid picture of the Anglo-Saxon bogey. "To-day the people that occupy most of the territory on the world's surface are the Saxons. This race originated in very early times in Europe, but they only occupy in Europe itself the three islands called Great Britain, namely, England Scotland and Ireland." (It will be news to some readers to learn that Scotland is a separate island.) "The territories to which these Saxons have spread are North America in the west, Australia and New Zealand in the east, and Africa in the south, so we may say that those who occupy most of the world's territory are the Saxons. These Saxons are also the wealthiest and strongest people in the world."

"Before the European war, the nations of Europe suffered from the evils of Imperialism. Now what is Imperialism? It is the principle by which political power encroaches on other countries; what in China is called being ready to seize to any extent. This kind of policy of grab is called Imperialism, and every nation in Europe is infected with this idea to such an extent that there are constant wars."

"Amongst the 1,500,000,000 of the world's population, the strongest are the 400,000,000 white people of Europe and America. The white races consider these as basic material by which to absorb all the colored races. For instance, the red aborigines of America are already extinct, the black people of Africa will be destroyed very soon, and the brown races of India are just now in process of extermination." Now no educated person believes that the brown races of India, which number upwards of three hundred million are being "exterminated" by the British. One must remember, however, that there are probably four hundred million illiterate people in China who are likely to believe whatever is told them by persons whom they respect and for whom they have a high regard. They are being taught to revere Dr. Sun's "Three Principles" and when they hear the enthusiastic lecturers and agitators quote from it that "the yellow races of Asia are suffering from the oppression of the whites, and probably will soon disappear,"

it is certain to cause them to shudder, and eventually to seek for ways of avoiding this racial extermination.

Further reference to the danger of the Chinese being exterminated by the increasing populations of white races is made in Lecture five, where Dr. Sun says "according to our own history, the Chinese being numerous, the aborigines of China. . . . were being exterminated by the increasing population of other peoples. This is easy to see; therefore China, suffering from the political oppression of the Great Powers, cannot be guaranteed even for one day. Economic pressure in ten years' time will also destroy us. Speaking of this question of population, China will very soon be in a very precarious condition so we see that the three great calamities of foreign domination, economic pressure, and encroachments of foreign populations are already upon us. Knowing this we must proclaim it in all quarters and tell everyone that we Chinese are already in such a position that we cannot escape the destruction of our own nation. When everybody has learnt this what ought we to do? The proverb says, 'When the beast is cornered it will fight.' When we are pressed to the point where there is no escape, we must rouse up and risk our lives to fight the enemy. When we arrive at the juncture, shall we be able to fight? Yes, certainly. But it will be only if we realize that our end is near, and death is certain. Therefore to advocate nationalism, our 400,000,000 must know that their end is near, and not only be cornered like her beast but fight as well. We who are about to die, shall we fight to not?"

The answer is obvious. The sad part of it all is that the teaching of this book is compulsory in all the schools in the Nationalist territory, not excepting mission schools. Under the present policy of the Nationalist Government all schools must be registered and must agree to have Kuo Min Tang doctrines taught in the school. It is necessary for us to bear in mind that the new generation in Southern and Central China is going to be saturated with this doctrine which is so sacred that to set oneself up in opposition to it is to be a "counter revolutionary" and subject to loss of life and property.

Besides advising the Chinese to fight, Dr. Sun urges strikes and the boycott and actually the complete severance of economic relations with foreigners. He says: "There are some things we cannot do, but what we can do is to refuse to work for foreigners and be their slaves, to refuse foreign goods and use native. We can decline to use the paper money of foreign banks and only use the money of the Chinese government; in a word, break off economic relations." The result of this doctrine has been very keenly felt in Canton where Dr. Sun had his headquarters for several years. Furthermore it is being felt all up and down the Yangtze Valley. It is true that many of the leading Chinese merchants and bankers do not subscribe to this doctrine at all, but with the constant spread of the Kuo Min Tang and the increasing use of "The Three Principles" the effect is bound to be felt more and more unless it could be successfully combated. It is the duty of the Kuo Min Tang to spread the gospel preached in this book. "The reason why up to the present we have suffered from foreign oppression is that most of us are ignorant of it, in fact drunk and dreaming. . . . There are two ways of resisting foreign countries, one is the Positive or Actual, by which the spirit of the people is roused to demand their rights and secure their social well-being in order to compete with foreign countries. The other is the Negative method which is passive resistance, by which the imperialism of foreign countries is lessened and the continuance of the nation assured." Needless to say both methods are taught by Dr. Sun.

Internal evidence points to the fact that the lectures in their present form were published in 1924, the year of Dr. Sun's death. One cannot help wondering whether the text of the "Three Principles" was not doctored by those Russians who were directing the councils of the Kuo Min Tang from 1924 to 1926. Be that as it may, the chief point at interest is not the character of Dr. Sun himself, or the nature of his knowledge, or the logic of his position, or the possibility of Russian authorship, but rather the fact that in this book we have the actual gospel that is being preached in China to-day. If the rising generation of Chinese become saturated with "The Three Principles" it will be many years before China can hope to be a useful member of the family of nations. The situation calls for far-sighted statesmanship and a campaign of enlightenment.



Photo Underwood & Underwood

New Governor-General of the Philippines with President Coolidge at White House

Henry L. Stimson (right), just appointed Governor-General of the Philippines, photographed at the White House to-day with President Coolidge (center) and Secretary of War Dwight F. Davis (left) after a conference with the President.

The New Governor-General of the Philippines

Henry L. Stimson Appointed to Succeed General Leonard A. Wood

CONSIDERABLE enthusiasm has been aroused both in the Far East and the United States by the appointment of Colonel Henry L. Stimson, former Secretary of War, as Governor General of the Philippine Islands. Mr. Stimson is familiar with the Philippine situation of which he has made a special

study. Shortly after his return from the Philippine Islands last year Mr. Stimson made the following statement:—

"The road to it would be by the abandonment of all planks for 'prompt Philippine independence' in party platforms; by repeated manifestations of a consistent policy on the part of our executives and our Congresses of both parties, backed up by similar consistent expressions of opinion by our press and other leaders of opinion." The reply of President Coolidge in 1923 to the demand of the Roxas Mission for the recall of Gen. Wood was described by Col. Stimson in his Foreign Affairs article as "an instance of a clear and satisfactory expression of American policy and one which produced an excellent effect in the islands." Mr. Coolidge on that occasion said: "The Government of the United States would not feel that it had performed its full duty by the Filipino people, or discharged all of its obligations to civilization, if it should yield at this time to your aspiration of national independence."

A graphic idea of the basic principles which will inspire Governor-General Stimson at Manila is conveyed by certain striking passages in the article hereinbefore mentioned. In the course of it, he says:

"If it were made entirely clear that America had decided to carry out patiently to its distant conclusion the experiment under-

taken in 1899, and that in the meanwhile it would not consider any abandonment thereof or experiment with any short cuts, the effect upon the ultimate solution of this problem would be great. The thoughtful Filipino politicians would then discuss in public what they now discuss in private with the visitor, namely, the necessary steps to be taken along that path of self-government which our Senate mentioned in its resolutions 28 years ago.

"When the subject is examined with even the most moderate care, the general course which we must follow, assuming that we intend to carry out our trust and not abandon it, seems plain. It lies between the extremes of annexation on the one side and immediate independence on the other, neither of which I believe would be supported after such study by any considerable body of American opinion.

"The course proposed by our Senate in 1899 of holding the islands indefinitely and training them in the meanwhile in local self-government has



Governor-General Stimson

been pronounced constitutional by our Supreme Court, which has thus ruled that there is nothing in our American Constitution inconsistent with the purpose of developing self-government possessions or colonies whose citizens did not participate in our citizenship and were not represented by votes in our Congress.

"Along that general path the other great group of English-speaking peoples known as the British Empire is already travelling. In the ideal of the Association of Free Nations' it has found what satisfies the desire for independence among its members at the same time that it secures the strength of mutual association.

"While it has not yet realized in full measure that ideal in the case of any dependency composed entirely of a brown race, the course which it is following as to the others logically and ultimately commits it in respect to all. Under the terrible test which came at the outbreak of the late war, the strength and loyalty of the bonds between the different elements of the empire were almost as marked among the brown peoples as among the white."

It is known to be a fact that the principal Philippine leaders are enthusiastic over Mr. Stimson's ideas and it is everywhere being assumed in the Far East that the worst phases of the Philippine controversy are now over, and that a period of constructive resurrection of the Island is to be entered upon. Some of Mr. Stimson's most interesting remarks on Philippine affairs might be reprinted:—

On the eve of his sailing from Manila to San Francisco he had this to say of his observations:

"I sympathize thoroughly with the desires of the people of the Philippine Islands for self-government and am much gratified with the rapid steps that they have made during the last twenty-five years. But self-government and national independence are two quite different things.

"Many of my Filipino friends have expressed to me the view that if the United States should withdraw its government from the islands it could be counted on to protect them in case thereafter they were threatened with danger from other sources and nations."

Persons sharing such a belief, according to Colonel Stimson, could not make a greater error, "for," he stated, "so far as the Philippine question is concerned, the American people are divided into just two classes." The first class, he said, represent those who are not willing to take the time and energy necessary in working out a satisfactory solution. These people, according to the Colonel, are anxious to "pass the buck" to the Filipinos. The second class, he said, represents the Americans who are willing to spare no pains in working out a satisfactory solution.

"Every time you agitate for immediate independence," he said, "you weaken the hands of your true friends and strengthen those of the others. If the United States were to take this demand at its face value and to withdraw now it would mean that the control of the American government had passed into the hands of the men who wanted to get rid of the anxiety."

If that control ever passed out of the hands of the Americans, no power on earth, according to Colonel Stimson, could ever persuade this nation to take a hand again in Philippine affairs.

"I often wonder," he said, "if my Filipino friends really desire that to happen.

"They are the only Christian people in the Orient, surrounded by nations of an entirely different race, religion and civilization. They are a small people, living in underpopulated islands of wonderful potential wealth. They are surrounded by much larger nations, whose territory is overcrowded and who are necessarily hungry for the inheritance of the Philippines.

"On the other hand, the people of the United States have no desire to supplant them or to take away their land or even in any large numbers to migrate to these islands and live there. Their only interest in the Philippines is to help the Filipinos develop their resources for mutually profitable trade and commerce."

There is no one living of any nationality, according to Colonel Stimson, who has guided people along the road to self-government more patiently and successfully than General Wood, but Congress, Colonel Stimson stated, failed to give him proper support.

What Colonel Stimson may expect Congress to do in the way of aiding him if his appointment is confirmed can be gathered from this comment:

"He (General Wood) has had to rely on former assistants in the United States Army, who have sacrificed their own careers to fill the urgent needs here. To carry on supervision, laid upon his shoulders by organic law, the Governor-General should have the services of several men of the highest type, experts in sanitation, medicine, agriculture and general administration.

"Congress should give General Wood backing and not less than \$300,000 to employ competent experts, so that our administration of the Philippines will be a credit to the nation and an example of American efficiency in the Far East."

Reporting further on his observations in the Philippines, Colonel Stimson said:

"In the southern islands I found an almost pathetic devotion and reliance upon the Governor-General by the leading chiefs of the Moros. But the political Filipino leaders who assume to represent the islands do not co-operate with the Governor-General.

"They will not co-operate with any responsible American Governor-General, however wise, able or humane, because they desire all power confided to themselves. They wish for complete independence so that they will not be restrained in doing whatever they want to do."

Though Colonel Stimson declined to outline his plans for the administration of the Philippines when he was questioned recently concerning what these would be, it can be assumed safely that he has not deviated from the general opinions he held a year ago in Manila. Questioned concerning his appointment, he had this to say.

"For nearly twenty years I was a devoted friend of General Leonard Wood, my predecessor, and an admirer of his many achievements for this country, particularly as a great colonial administrator.

"I therefore feel most keenly the responsibility and trust which President Coolidge has placed in me in appointing me as his successor in the Philippines."

British Trade and Industry

By Gilbert C. Layton, Assistant Editor of "The Economist"

(SPECIAL TO THE "FAR EASTERN REVIEW")

The Iron and Steel Industry in 1927

THE year 1927 has not been one of uniform prosperity for British iron and steel manufacturers. During the months immediately following the resumption of work after the coal stoppage—that is, the first few months of the year—production was on an extremely generous scale. Indeed, the output of steel ingots in March reached "record" dimensions. But the margin of profit was by no means high, for, while selling prices were low, the costs of production, and particularly the cost of fuel, were not, relatively speaking, at a moderate level. Since the spring, however, the production of iron and steel has been steadily declining,

though the latest figures of output would seem to suggest that the decline in the production of steel has been arrested. But, on the whole, the level of production has not been so disappointing as the margin of profit which it has yielded.

A number of companies have recently published reports which cover a great part of 1927. These show considerable variations, but in no case can it be said that there is evidence of great prosperity. Indeed, the finances of some undertakings are most unsatisfactory and it is clear that there is no alternative to a drastic writing down of capital. There seems a certain unwillingness to face the facts, but delay will only increase the difficulties of making equitable adjustments. Naturally the chairman of the companies, in

addressing the shareholders' meetings, have reviewed the present position and future prospects of the industry. There is general agreement that the industry is hard pressed to maintain its present moderate prosperity.

The Remedies for Its Ills

But, as was to be expected, there is considerable difference of opinion in diagnosis and forecast. There is, however, a somewhat increasing tendency to indicate protection as the remedy for the industry's ills. For instance, Viscount Furness says that "I am of opinion that even with the most efficient works and organization possible, it would be impracticable, without protection, for us successfully to compete with the semi-finished and some of the heavy steel commodities which are imported into this country." These words are disturbing. They reveal not only an absence of contact with the realities of the situation but also an attitude of mind in which there is little hope for the industry. Iron and steel manufacturers should frankly recognize that protection is entirely outside the limits of possibility.

There was recently held in London a Convention organized for the purpose of discussing the World Economic Conference which assembled at Geneva in May last. The speakers were in the highest degree influential and representative and the outstanding feature of the Convention was the anxious and widespread sympathy in favour of freer international trade. The British Government, in view of this and other evidence—not to mention its election pledges—could not possibly bring forward measures for protecting the British iron and steel industry. The best hope for the industry lies in a searching analysis of its difficulties and a determination to overcome them. That this is not platitudinous is proved by the recent experience of a leading Sheffield firm of steelmakers. They have successfully applied the high-frequency induction furnace to tool-steel manufacture. An eminent authority declares that it is suggested "that the total cost of melting by the new method, including

depreciation and all charges, may be as little as one-half of that in coke-melting. That an appreciable economy will be attained appears highly probable."

Coal-mining in 1927

The year 1927 has been one of which, on the whole, the British coal-mining industry will not have kindly recollections. The earlier months of the year, immediately following the resumption of work after prolonged stoppage, saw production at a high level and gave many mine-owners a margin of profit. But by the second quarter of the year working was unprofitable in every area, the losses ranging from 3.81d to 1s-10.52d on every ton of coal sold. By September the industry had 228,000 workers unemployed. Therefore, the reports of the majority of the companies for 1927 cannot be expected to make a very favourable showing.

In certain areas the coalowners are considering measures to improve their fortunes, but whether all these are being conceived on the right lines is open to doubt. One of the most important of the schemes is being promoted by the coalowners of Yorkshire, Nottinghamshire and Derbyshire. In brief, it provides for the control of output, with heavy penalties for exceeding the output, a levy of 3d a ton on all coal raised and a subsidy for export coal to enable the export trade to re-establish itself in foreign markets. Apparently it is expected to subsidize exported tonnage to the extent of about 3s per ton. A number of coalowners have pledged their support, but whether the scheme will command the approval of a sufficient body of owners to ensure its adoption remains to be seen. It will certainly not make a strong appeal to owners who chiefly cater for the home market. Moreover, it will have far-reaching reactions which will not be welcomed. The other exporting areas will be placed at a disadvantage, while it is almost certain to provoke our Continental competitors to engage in a "price-war." In these circumstances, the fate of the scheme is a matter of great interest both to British and overseas coalowners and exporters.

The Present Status of the Kuomintang

By George E. Sokolsky

THE Kuomintang is the Nationalist Government. The insistence upon Government by Party is fundamental with the Kuomintang and is perhaps the result of the fact that in a country where there is no parliamentary system and in which the people have no mechanical means for the selection of officials and for an expression of their will, government by party was the only alternative to government by individualistic despotism. Dr. Sun Yat-sen ordained that the Kuomintang should govern China in tutelage; that is, the party functions for the people until the party has trained and educated the people to govern themselves in according with democratic ideas. It must be noted that during his entire lifetime (except from the arrival in Canton of Comrade Borodin at the end of 1923 to his death in March 1925) Dr. Sun's conception of democracy and of politics was entirely Anglo-Saxon. His deviation after the appearance of the Russians from this conception has led to much confusion, from which the Kuomintang must turn before it can find the mechanics for the modernized Chinese state.

The Kuomintang as a party does not tolerate the presence of any opposition parties in the Government. (This idea is now slightly modified but the basic principle remains.) There can be but one party to hold China in tutelage and that must be the traditional party of Dr. Sun Yat-sen. Yet, it would be entirely false to suggest that so huge an organization, covering so vast a territory, as the Kuomintang, can be so unified in ideals, in conception of methods, in programme as to be more than a single party in name only. The divisions in the Kuomintang may be roughly and not altogether accurately stated to be as follows:—

1. The Right Wing which is a composite of the Western Hills Conference group, the Hu Han-min elements, and some of the more active leaders of the September Nanking Government;

2. The Centre Party which includes the leadership of the present Nanking Government, many of the militarists and a

group of intellectuals who have reached the conclusion that any means should be utilized to maintain the existence of the party during the present transitional period;

3. The Allies of the party, which includes such military leaders as Marshal Feng Yu-hsiang, General Yen Hsi-shan, General Chen Tiao-yuan and similar types of associates who are neither philosophically nor politically Kuomintang leaders but who have been thrown upon the party by the exigencies of Chinese politics and whose opinions and wishes must be given consideration as long as their troops are fighting for or with the party;

4. The Semi-Communists are an opportunistic group of men and women who had been associated with the communists and have been directly under the Russian influence, but who now seek to retain their influence in the Kuomintang after the split with Soviet Russia and the Communist Party of China.

Finally, there is outside the Kuomintang, the Communist Party of China, an effective, organized, disciplined body, capable of astonishing survivals and of individual self-sacrifice not altogether to be expected among Chinese politicians.

The two most important groups are the Centre and the Communist Party of China.

The Centre Party is realistic. Its outstanding ambition is to achieve the conquest of Peking and to unify the country under itself. It is capable of compromises within and outside the party on immediate issues, if not on general principles. It seeks to develop competent administrations with a view to creating the mechanics of Government immediately so that the territory which is nominally under its control should be administratively at least under its influence. It fluctuates between Left and Right without regard to the exact definition of principles and without a regard to consistency.

Its power comes from its insistence upon power. It works. It fights for its own existence within the party and undermines

(Continued on page 80).



The Mitsui Exchange House and "Yechigoya" (Mitsui Drapery Store). From a drawing made in 1821

"First of all Our Country"

The Story of the Mitsui Bank

THE Mitsui Bank celebrated its 50th anniversary as a modern financial institution on July 1 last, and in commemoration of the event has issued a brief history of the financial activities of the House of Mitsui since it first entered the exchange field in 1683. The Japanese are proverbially reticent. It is difficult to extract from their leading manufacturers even the essential data on which to base a proper presentation of the economic development of their country for the benefit of the outside world. Occasionally, however, the rule of silence is broken by the publication of some commemorative document which helps us to understand better the forces which have elevated Japan in half a century to her present high position in international trade and finance. Such a document is the "Brief History of the Mitsui Bank." This little book however only begins adequately to enlighten the reader as to the real part this institution plays in the commercial life of Japan. This can only be understood by a fuller description of the history of the House of Mitsui which personifies the traditions and spirit of Japan.

The rigid code of business honor and ethics which guides the activities of the Mitsui Family has enabled it to endure through the centuries and expand its activities while other more famous worldwide trading corporations have lived out their usefulness and faded into oblivion. The story of the Mitsui Bank goes back 243 years into the mists of Old Japan, when "Goldsmith's Notes" were in circulation in England and the Bank of England had not yet come into existence. The evolution

of a humble exchange shop operated as an adjunct to a dry-goods store, through all the stages of readjustment to meet the changing needs of the times, until it occupies to-day the premier position in the financial life of Japan is unique in the history of finance, a tribute to the unswerving patriotism and loyalty of the Mitsui Family to the rulers of the country.

The rise of the Mitsui dates from the time the little Yedo dry-goods store exchange shop extended its activities by opening branches in Osaka and Kyoto. It was then appointed fiscal agents for the Shogunate, entrusted with the official remittances and made purchasing agents of the government. For over 200 years the wealth of the Mitsui Family was at the disposal of the governments of the day, carrying the nation through several severe financial panics and, when the crucial conflict came in 1868 between the Shogunate and the Emperor, the Mitsui unhesitatingly threw in their lot with the Imperial cause and contributed splendidly to the Restoration by large advances to the new government.

The last article of the Code of the Mitsui is; "You who have been born in the land of gods, worship your gods, revere your lord, love your country and do your duty as citizens." And history credits the House of Mitsui with living up faithfully to its code, staking everything on its cardinal principle, "First of all, Our Country."

Like all other Exchange Houses, the Mitsui attached the first importance to financial service for the Government, but unlike others, they made it an unalterable rule never to advance money to the



Takatoshi Mitsui, Founder of The Mitsui Exchange House.

Reproduced from An Old Portrait



"The Mitsui-gumi House" built in 1872. Reproduced from an old print

Daimyos, except to a strictly limited few with whom they had special relations. They concentrated on serving the Imperial Court and the Shogunate, the former with funds for financing the repair and construction of palaces, furnishing enthronement expenses and other like matters, and the latter in accommodating funds for the Treasury, exchanging new for old coin, in rendering exchange service between the Osaka and Yedo treasuries and also in receiving for the Government the proceeds of the sale of rice from the Shogunate graneries in Niijo and Otsu, with the same privilege of dealing with such proceeds as in the case of money received from the Osaka Treasury. The Mitsui sometimes advanced money on cotton thread and silk goods, besides dealing in loans, mortgages or letting and leasing lands and houses; but they accepted, as a rule, no deposits, except from family circles and exceptional customers. They paid interest on family deposits, but on no others. They interested themselves in land reclamation in addition to conducting express service for the transmission of official papers.

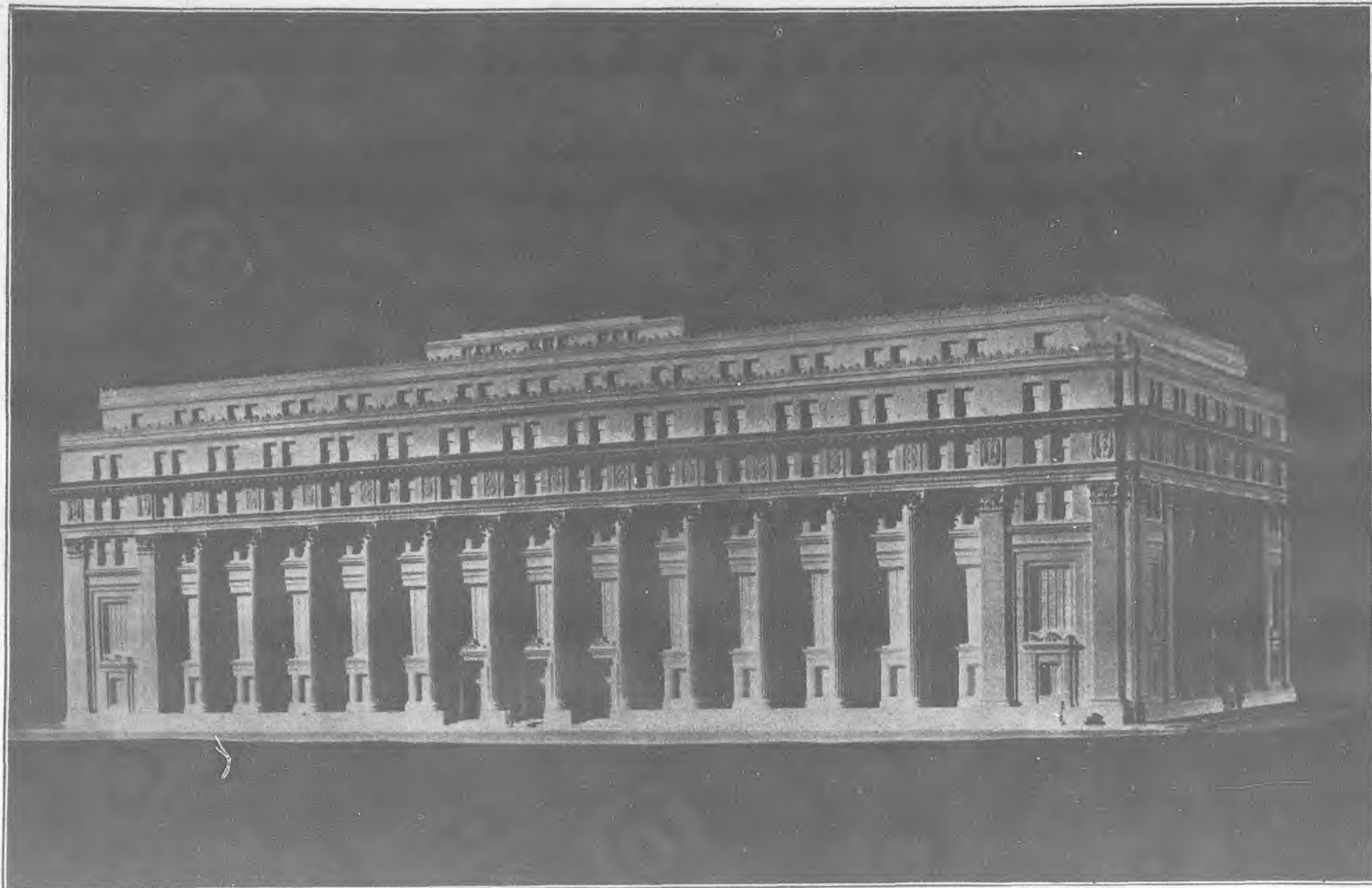
The exchange business was up-hill work for the Mitsuis when they first entered the field as there were many long established and powerful houses in competition against them, but their business grew rapidly from the time they were appointed fiscal agents in 1691. So much did they gain in influence after this that the representative of the House of Mitsui in Yedo was elected in 1702 head of the fiscal agents in Yedo.

The other Exchange Houses were greatly embarrassed when, in 1709, the Yedo Government ordered all fiscal agents to pay back, at once, all official money under their control; but the Mitsuis met the demand promptly. Likewise, in later years, the Mitsuis alone weathered, unshaken, the changes which played havoc with not a few financial houses in the three great commercial centers of the Empire.

In twelve and a half decades, from about 1700, the recoinage of currency often took place. Consequently, the social and economic situations underwent many changes; but throughout these years



The Former Head Office of the Mitsui Bank Built in 1902



The Mitsui Gomei Kaisha, Mitsui Bank and Mitsui Trust Company, Ltd., the Largest Structure in the World Used Exclusively for Banking Business

of vicissitudes the Mitsuis continued to make profits. Their business prospered until the house in Yedo stood at the head of the list of money exchange houses in the Shogunate capital.

Takatoshi Mitsui, who died in 1694, was the creator and uniting bond, while he lived, of the three exchange houses and other establishments of the Mitsuis. On his death it was deemed advisable by his successor to frame a family constitution and business code by which to keep all the Mitsui institutions bound more closely together, on the principle that "in union is strength." Consequently a family constitution and private rules and regulations were adopted between 1716 and 1736. They provided for the better control and greater efficiency of officers and employees even down to the details of behavior and preservation of health. These were looked upon as models of their kind in those days. They have since undergone more or less alteration, made necessary by the change of the times, but they have remained the same in the main and have paved the way for perfecting the organization of the Mitsui Bank of to-day.

gumi who were asked to produce at once 50,000 ryo to meet the most pressing need. They had to sell the old gold and silver coins in their possession to scrape that amount together. This will give an idea of the extreme financial straits in which the Government was placed in those days. It was, however, enabled to tide over the situation, thanks to the unremitting exertions and intense spirit of patriotism with which the Mitsui-gumi did their part. History credits them, indeed, with staking everything to be true to their principle of "First of all, our Country."

When the Government built and opened a mint with modern equipment, in Osaka, in 1871, with a view to unifying the currency of the country, it appointed the Mitsui-gumi, as the fiscal agent of the Mint for exchanging new for old coins, and also for collecting and forwarding gold and silver bullion. This agency established offices in Kyoto, Osaka, Tokyo (by which name Yedo had come to be known by that time), Yokohama, Kobe, and Hakodate, all of which rendered invaluable services to the Government adding greatly to the credit of the Mitsui-gumi.



Baron Hachiroyemon Mitsui, President of the Mitsui Gomei Kaisha (Mitsui Holding Company)



Genyemon Mitsui, President of the Mitsui Bank, Ltd.

It was not, however, until 1867 that the Mitsuis entered upon what might be termed their modern career. On December 6 of that year Saburosuke Mitsui was appointed fiscal agent of the Imperial Treasury in Kyoto, which was at that time empty. Saburosuke Mitsui, who had anticipated the nature of service expected of him, made a present of 1,000 ryo on the spot. This was the first instance of the people's contribution of money to the Government in the new régime. The beginning of the Meiji era involved the expenditure of huge sums. The Government had to resort to the levy of a forced loan of three million ryo from the Mitsui-gumi and other wealthy merchants in Kyoto and Yedo, in January 1868, the proceeds to form a Treasury fund. Then came another of 50,000 ryo, in February, to defray the expenses of an Imperial expedition to Osaka and still another of 150,000 ryo, in April, to be used in pacifying the Kwanto districts.

In quick succession to these loans the Government issued an order for still another of 860,000 ryo in hard money, to eliminate difficulties caused by the unpopularity of the Government's paper money. Of this amount 300,000 was assigned to the Mitsui-

About this time the Government made a suggestion to the Mitsuis that they might open a modern bank similar to European and American banking systems. The petition which was addressed by the Mitsuis to the Department of Finance in July, 1871, is of the greatest importance:—

The petition which was addressed to the Department of Finance in July, 1871, said in part: "We members of Mitsui family have become convinced of the desirability of establishing modern banks in Tokyo and other open ports, and of engaging in the banking business in the most sound and trustworthy way, modelled after the tried methods obtaining in Europe and America, thereby to facilitate the financial transactions of the country. We pray that the Government grant us the privilege of issuing convertible notes and beg to submit herewith the plan of the proposed bank and the method of issuing notes for stated amounts."

The petition was sanctioned and the banknotes were printed in America. This plan, however, fell through as the Government decided to adopt the American national bank system and cancelled the sanction granted to the Mitsui-gumi. Instead they were

entrusted with the issue of Treasury convertible notes for the Government to the amount of Y.6,800,000 and also Colonization convertible notes of Y.2,500,000.

In February 1872, the Mitsuis sent five young men of their family to the United States to learn the banking business and to prepare against the day when the Mitsuis would enter into this business. About the same time the Government promulgated the National Bank Act and proposed the plan of establishing national banks, with the First National Bank in Tokyo to be conducted as a joint enterprise of the Mitsui-gumi and Ono-gumi. Despite the Mitsui-gumi's desire to have a bank of their own, they were eventually persuaded to agree to the Government's scheme and in June 1872, an application for permission to establish a National bank, signed by three members each of the Mitsui-gumi and Ono-gumi, namely Hachiroyemon, Jiroyemon and Gennosuke Mitsui, and Zensuke, Zentaro, and Zenyemon Ono, was sent in to the Government. It ran substantially as follows: "The two houses are agreed in their desire to establish, as their joint undertaking, a bank with a capital of two million yen. It is assumable that there will be others later who wish to join in the business, and it is their intention to increase the capital of the proposed bank to five million yen in due course. They understand that the Government has already carried out investigations as to rules and regulations. These the promoters undertake to obey strictly and never to deviate from them in any detail. They pray that they be granted permission to proceed with their enterprise."

The application was accepted and the First National Bank was established on June 11, 1873. The Mitsuis subscribed to almost half of the shares.

Simultaneously with the promulgation of the National Bank Act in November 1872, the Government forbade the use of the term "Ginko" (bank) by any establishment other than a national bank, even though it was actually transacting a banking business. For this reason, the Government held the petition for the establishment of the Mitsui Bank for a long time without coming to a decision one way or another. Eventually, however, it accepted the application and gave sanction through the Tokyo-fu Governor, under date of March 31, 1876, with a proviso that, pending the enactment of a general law of Banking, the business of the proposed bank should be conducted as an act of private understanding among the parties concerned, making, at the same time, a reservation. This reservation was in regard to the shareholders' liability. The Mitsui promoters accordingly altered the liability provision in their articles of association to provide that the shareholders' liability should be unlimited instead of limited as in the original. The Mitsui Bank, the very first private bank ever established in Japan, was thus organized in the form of a Societe Anonyme with unlimited liability.

The Bank's capital, which was fixed at two million yen, was divided into 20,000 shares, of which 10,000 were taken up by the Headquarters of the Mitsuis, 5,000 by the individual members of the family, and the remaining 5,000 by the employees, former

servants of the house. The number of shareholders aggregated 383.

The Mitsui Bank opened for business on July 1, 1876, in the old Mitsui-gumi building in Surugacho, Tokyo, with Hachiroyemon Mitsui as its President and Rizayemon Minomura and Saburosuke Mitsui as Vice Presidents. It engaged, of course, in a general banking business; but its principal work, at first, was handling official funds for Governments, Central and Prefectural. The assets and liabilities of the Mitsui-gumi were transferred and handed over to the new bank on the day before its opening. They stood as follows:

Deposits	..	..	..	..	..	Y.11,369,055
Loans	..	..	..	..	..	Y. 9,911,347
Cash	..	..	..	..	..	Y. 1,580,544

The Bank's opening was almost simultaneous with a change in

the Government's policy of collecting taxes which farmers had, up till then, been permitted to pay in kind. But they were now required to pay in cash. The change told very severely on the country people especially as it came before they had quite recovered from the effects of the panic occasioned by the failures of the Ono and Shimada houses, while the unusual abundance of the crop in 1876 superinduced a great fall in the price of farm products. In the circumstances, the local offices of the Mitsui Bank adopted a timely measure of advancing money against rice thus helping the farmers to pay the tax without much difficulty. It was probably that the farming population would, otherwise, have been placed in a very distressing position even to the extent of involving the country in a serious crisis. But the danger was averted, thanks to this step taken by the Mitsui Bank. In 1877 the Japanese Government undertook to raise a loan of Y.12,500,000, with the proceeds of which to encourage industrial enterprises. This was the first time the Japanese Government had issued a loan to be subscribed by the Japanese public to which the proposition was entirely foreign. It was hard work to induce subscriptions. Most people were possessed of an idea that it was something in the nature of former forced contribution to the exchequer. The Mitsui Bank, in collaboration with



Dr. Takuma Dan, Director General, Mitsui Gomei Kaisha, (Mitsui All Combined Interests)

the First National Bank, made the most strenuous effort to float the loan. They were successful, and, by the day of closing the subscription list, the loan was heavily over-subscribed, the Mitsui Bank alone securing subscriptions to the amount of no less than Y.12,470,000.

In 1893 the Mitsui Bank was reorganized into a partnership with the capital fixed at Y.2,000,000. The first President of the partnership was Takayasu Mitsui and the post of Managing Director was taken by Hikojiro Nakamigawa.

In place of transacting the fiscal business of the Government, the new Mitsui Bank now undertook to expand its field of activity by including the general commercial banking field. This fact was clearly reflected in the number of the Bank's branches and sub-branches. When the old Mitsui Bank succeeded to the business of the Mitsui-gumi in 1876 the branches and sub-branches, scattered

throughout the country, numbered 33, and when the new Mitsui Bank succeeded to the old, the number was 31. Subsequently eleven of the latter places of business had been closed by 1897. All these eleven had dealt almost exclusively with the Government moneys. The discontinuance of these branches and sub-branches showed that the new Mitsui Bank was steadily changing its business into that of normal banking operation from the abnormal one depending chiefly upon monetary service rendered to the Government.

In November, 1898, the Bank increased its capital to five million yen, admitting six new members, all of Mitsui blood, into the partnership besides adding two auditors. The new partners were:

Genyemon Mitsui	Saburotsuke Mitsui
Fukutaro Mitsui	Takenosuke Mitsui
Yonosuke Mitsui	Tokuyemon Mitsui

The war with China in 1894-1895 was followed, a decade later by another continental campaign, this time against Russia. Both were critical events for the Empire and their effect on the economic activity of the country was most far-reaching. The raising of war funds was, in the first place, a gigantic task. But the war in each case was followed by business prosperity and also the increase of bubble enterprises. Consequently in a few years a reaction set in with panic in its train. In the face of these events, however, the country forged ahead and in the interval between the two wars the gold standard of money was established, while commerce and industry made striking progress. The international status so advanced that Japan rose to a place in the councils of the great powers of the world after the victory in Manchuria.

The part played by the Mitsui Bank throughout that memorable period was well in keeping with its now well established spirit of enterprise and consistent sense of duty of the country. It co-operated with other banks in raising war funds, but did not fail to take the leading part in furthering commercial and industrial progress. The magnitude of the Bank's business grew, as may be gathered from the following figures for the years preceding the Russo-Japanese war:—

End of		Deposits Yen	Loans Yen	Profits Yen
2nd semester	1893	16,775,547	10,938,993	370,080
do.	1896	24,140,572	18,072,234	421,722
do.	1899	27,501,493	28,149,630	484,220
do.	1902	34,726,937	23,085,732	363,014
do.	1903	37,729,086	26,663,648	392,866

The Russo-Japanese war, in 1904 and 1905, wrought far greater economic changes in Japan than the Chino-Japanese war, adding immensely to the importance of the country. The Mitsui Bank shared in this general advance. Its business increased remarkably as the following figures show:—

End of		Deposits Yen	Loans Yen	Profits Yen
1st semester	1904	41,710,308	30,227,667	395,383
do.	1907	70,338,956	55,070,179	2,007,505
do.	1909	78,319,898	64,872,992	1,220,190

The Mitsui Bank, Ltd., with a capital of Y.20,000,000 all paid up, and the Toshin Warehouse Company, Ltd., with a capital of Y.2,000,000 all paid up, were formally incorporated on October 11, 1909, and the same day the new bank elected its officers. The Partnership Mitsui Bank handed over its bank and warehouse businesses respectively to the new companies on November 1 of the same year, the latter opening for business on the same day. The old Mitsui Bank dissolved on December 20 following. The capital of the new bank was divided into 200,000 shares of which 38,000 were taken by ten members of the Mitsui family who had acted as its promoters and the remaining 162,000 by other connections of the Mitsui interests. The president and directors of the new bank included the following:—

President	Baron Takayasu Mitsui
Managing Directors	Senkichi Hayakawa
	Seihin Ikeda
	Umekichi Yoneyama
Directors	Morinosuke Mitsui
	Takuma Dan
	Gūchi Iida
Auditors	Takenosuke Mitsui
	Yeiji Asabuki
	Tomojiro Ono

The offices of the new bank numbered 15 at the time of its formation including one head office which was divided into the general headquarters and the business department, and 14 branch offices.

The Bank's first arrangement for foreign business, to meet the growing needs of the country's external trade, was made in 1906 with Messrs. Barclays & Co. of London, the Mitsui Bank's first foreign correspondent, followed later by connections with the leading financial houses in the most important centers of the world. The end of July, 1914, saw the opening of the great World War drama on which the curtain did not drop until November 1918 and the experience of Japan, who did her share in the mighty struggle, in the intervening four years and afterward, was a series of the most violent fluctuations in the economic world. First came an extreme business gloom, with the country's foreign trade and international monetary relations all dislocated; but following this Japan entered upon a period of extraordinary commercial and industrial prosperity, brought on by the tremendous excess of exports over imports. Almost overnight Japan changed into a creditor from a debtor nation which she had been for a long time past.

At that time the Mitsui Bank, as one of the leading banks of Japan, underwrote the Government bonds and also subscribed to the loans of the Allied Powers. Not the least important was the rôle it played, singly or in common with others, in supporting the commercial and industrial interests of the country, simultaneously with the flotation of bonds and securities and also in the importation of foreign capital. These activities helped the Bank to further expand its business, with the result that its deposits rose above the one hundred million yen (Y.100,000,000) mark, in the first half of 1915, while the loans did likewise in the following year. The increase of the business may be observed from the following figures for the years preceding and during the war:—

End of		Deposits Yen	Loans Yen	Profits Yen
2nd semester	1909	86,162,862	72,828,814	875,241
do.	1912	85,350,722	77,892,400	1,320,050
do.	1915	114,810,144	94,959,317	738,105
do.	1919	306,571,664	260,805,085	3,483,494

The years following the last capitalization change of the Mitsui Bank were very eventful in the economic life of Japan. Panics occurred in the stock and general merchandise markets, in the wake of which came a great shaking up of banking circles. Worst of all, was the cataclysmic earthquake and fire of September 1, 1923; scarcely giving the country breathing time to recover from the effects of one misadventure before it was succeeded by another. The last was, of course, indescribably most serious. The Mitsui Bank head office and the Yokohama branch were not seriously damaged by the earthquake, but the fire that followed burnt out the interiors of both buildings.

Fortunately, however, the losses in this connection were comparatively small, for the buildings of the head office, belonging to the Mitsui Gomei Kaisha (Mitsui holding company) and those of the Yokohama Branch, had almost been written off the balance sheet. Besides this, the vaults of both the Head and Yokohama offices escaped the disaster intact except that they were buried in debris. The head office, and the Nihon-bashi and Marunouchi Branches were able to resume business on September 11 and the Yokohama Branch on the 25th of the same month.

The Mitsui Bank has come out of this series of calamities and misadventures with every increasing prosperity, as the latest return shows:—

End of		Deposits Yen	Loans Yen	Profits Yen
2nd semester	1919	351,130,353	318,526,436	4,746,596
do.	1922	439,130,693	390,919,721	7,068,591
1st semester	1926	475,857,350	410,575,621	7,713,991

Increase of percentage for 1926

Compared with 1919 Compared with 1909

Deposits	..	35.5	452.2
Loans	..	28.8	463.7
Profits	..	62.5	781.4

There have been like gains in foreign bills bought and sold, namely:

2nd semester	1919	..	Yen 284,120,643
2nd	1922	..	339,262,898
1st	1926	..	1,546,488,470

The 1926 figures show a gain of 444 per cent. as compared with that for 1919.

Shanghai's New Customs House

The Greatest Building Achievement of the Year in China

By H. F. Wilkins

THE new Customs House on The Bund is at last complete. A \$4,250,000 monument to foreign trade, it rears its tower high above traffic on the street below and watches the ceaseless passing to and fro of steamers and sampans, tugs and lighters, foreign and native craft on the Whangpoo River.

Thirty months ago the Chinese contractor who built the new Customs House under the supervision of Palmer and Turner, architects, set a crew of men to work at the foundation. Gradually the massive structure took on its present shape. To-day its offices are beginning to hum with life as the Customs staff orients itself to the palatial new home.

The Chinese Maritime Customs have erected a truly massive structure, massive in design, massive in structural detail, and massive in size. The huge granite blocks which face the entire exterior to the height of two stories are topped with eight more stories of red brick, trimmed with granite, on The Bund front, and three more stories on the western side, facing Szechuen Road. The general design has been treated in restrained classic manner, with apparent suggestion in external appearance of the purpose of the building. The traditional tower is the very center of The Bund.

Ships and gods of the sea are portrayed in the metopes of the frieze above the massive main entrance with its Parthenon pillars. Much of the ornament, inside and out, is symbolic of the sea. Vertical lines predominate from the third to the seventh floor, in contrast to the long horizontal lines of the Hongkong and Shanghai Bank building next door, which has a greater frontage on The Bund. The major portion of the tower is of simple masonry to give pre-eminence to the clock with its four great faces.

A relief motif of copper and bronze com-

pletes the general impression of the exterior. The extremity of the tower is covered with copper. Windows on the bund frontage are rimmed with solid bronze and provided with external shutters of metal.

An Engineers' Visit

Before the building was opened to public inspection and just prior to the first occupation of the new building, members of the Engineering Society of China and members of the Public Works Department of the Shanghai Municipal Council were taken on a conducted tour of the structure, from the parapet above the clock tower to the oil-burning heating system in the heart of the structure on the ground floor.

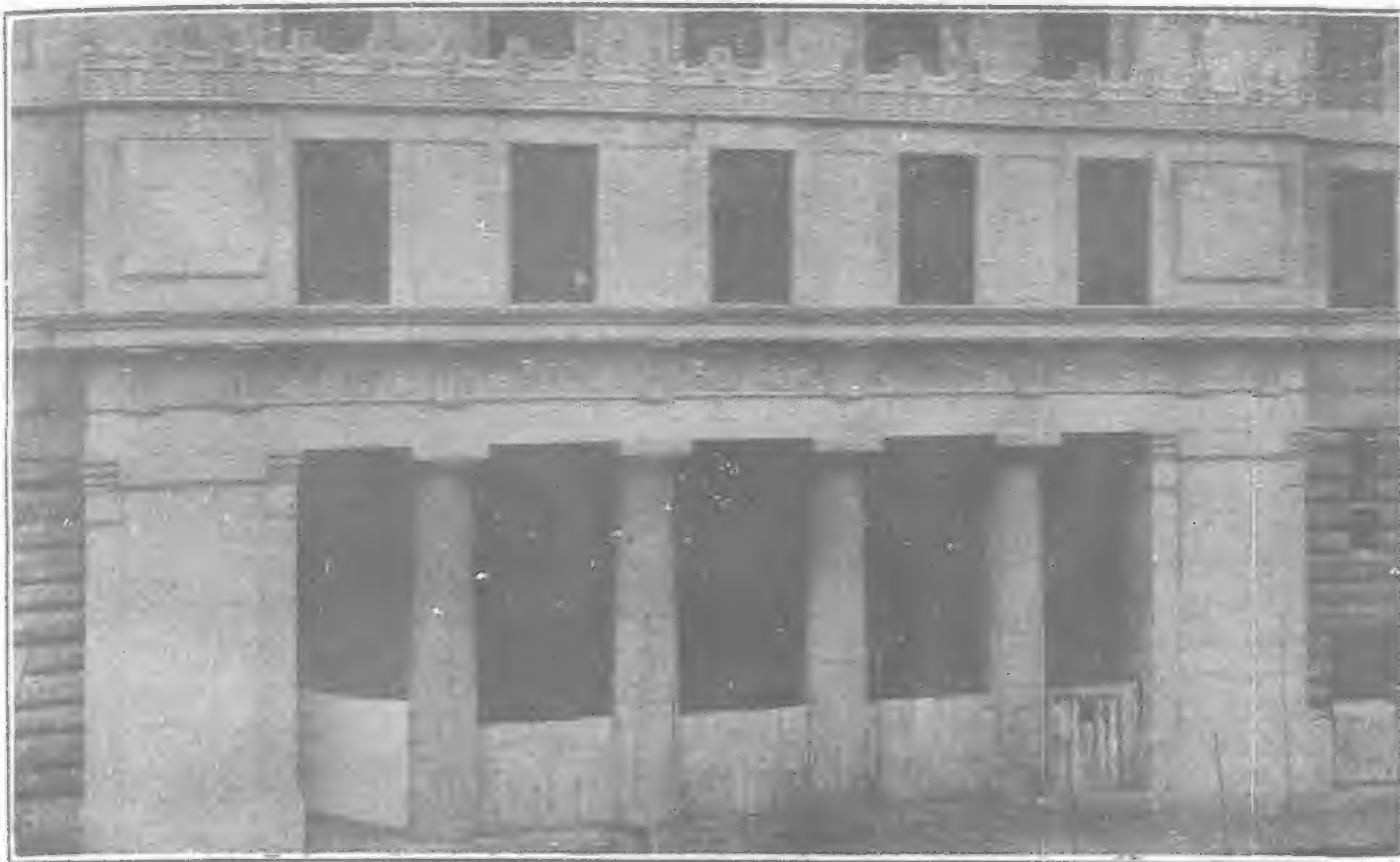
Mr. E. Forbes Bothwell, of Palmer and Turner, conducted the tour, and nearly half a hundred engineers participated. They went through every room in the building, more than 500 altogether, examined structural details, and listened to the explanations of the engineers. They spent much time in examination of the clock, which is one of the finest ever installed east of the Suez, or anywhere in the world, for that matter. They examined the longest counter in the world—610 feet in length—in the general offices on the second floor. They listened to some startling figures which reveal the true significance of the job.

The building has a frontage of 131 feet on the Bund, 450 feet on Hankow Road, and 162 feet on Szechuen Road. Its total capacity is 5,943,000 cubic feet, and the building contains about 300,000 feet of floor space.

Eight to nine hundred men on the average were employed on the structure, and 1,200 at the maximum. The building was put up and finished entirely by Chinese labor, under the direction of Sing King Kee and Company, general contractors. The building



Shanghai's New Customs House



Detail of the Front Entrance

contains more than $11\frac{1}{2}$ miles of water piping, 65 miles of wires and cables in the electric wiring system, and 89,000 feet of steel conduits. The number of points wired up, including light, fan, heating, bell, clock and motor points, totals 2,731. There are between 500 and 600 radiators in the place, and the heating system is supplemented by hot air beside.

The Plan of the Building

The interior arrangement of the building is in three blocks, the eastern or front block on The Bund, the central block to the south and north of the long central yard on the ground floor, and the back block on Szechuen Road, which contains in addition to upstairs offices and rooms, space for the Bank of China on the ground floor. The main entrance of course is from The Bund, leading to six passenger lifts and the principal staircase, with its bronze banisters. There is a heavy goods lift and staircase on the south side of the building, approached from the courtyard, and another staircase and passenger lift in the southwest corner of the building. Two carriage entrances lead to the main courtyard, one from Hankow Road and one from Szechuen Road. Broad and deep light wells separate the main blocks of the structure.

To the right of the entrance lobby and behind one of the main lift banks are the offices of the chief tidesurveyor and his staff. Next to these offices, on the north side of the building, are the boxholders' room and waiting room. To the left, on the south side of the building, are the offices of the transport officer, his strong room and godowns. The courtyard in the center of the building provides way for trucks to come into the building from two entrances, and the yard is big enough to accommodate all the traffic that may seek access. A skylight of "Galorex," a glass that admits light but excludes 60 per cent. of the summer heat, covers the central portion of this yard. This covering also keeps in much of the heat that comes from the fire room in winter. This Calorex was furnished by Chance Brothers, Birmingham, England.

Situated around the courtyard are the carpenter shop, garages and godowns, a ricscha store, and the aforementioned space in the Northwest corner for the Bank of China. In the Southwest corner is a dormitory for servants, with lavatories, kitchen and dining room.

The Water System

The heating system and water supply installation is thoroughly modern and one of the

most interesting parts of the New Customs House. The red fires from the oil burners under the boilers can be seen from the Hankow Road entrance, day and night.

The heating system of the building is a combination of hot air, hot water and low pressure steam, the latter used only on the first two floors. All the heating, plumbing and ventilation equipment was installed by the Shanghai Waterworks Fittings Co., Ltd. Original calculations and designs for the various installations were prepared by A. Malcolm, consulting engineer. Working drawings and details were supplied by the company's engineers.

The entire supply of water is drawn from a deep artesian well of 6-inch bore, worked in by the China Deep Well Boring Company of Shanghai. From here it is pumped by duplicate deep well Drysdale borehole pumps of the vertical spindle axial type into a 10,000 gallon suction tank in the basement. From this tank it is taken to a storage tank at the ninth floor level of 5,000 gallons capacity by means of two Conqueror Domestic pumps manufactured by Messrs. Allen & Sons, Bedford. Each of these

is $17\frac{1}{2}$ b.h.p. with a capacity of 200 gallons a minute. From this tank cold water services are taken to:

1. Three hot water cylinders.
2. Eight boilers.
3. Various sanitary fittings throughout the building.
4. Three storage tanks on the seventh floor level, of varying capacities.

Hot Water Supply

The hot water supply is provided by three Cochran vertical hot water multi-tubular hot water boilers, two having a capacity of 750 gallons, and a third with a capacity of 555 gallons of hot water an hour. This can be sent through the piping system at 50 to 150 degrees Fahrenheit per hour, as required.

These boilers work in conjunction with three hot water storage cylinders of a total capacity of 1,700 gallons. From these cylinders circulating pipes are taken to the various baths, lavatories and places where water is used directly.



The Entrance Lobby with Mosaic Dome

These are all cross-connected by means of by-pass valves so that one, two or three units may be supplied at will. Two separate cylinders hold water for these units, one on the ninth floor and one on the seventh. One of the units is designed to supply hot water to the baths, lavatories and so on, and the others are for the remainder of the fittings.

Included in the sanitary installations are 136 water closets, 74 urinals, 121 lavatories, 34 sinks and 30 baths. A complete system of piping is installed to supply rain water from receptacles on the roof and to carry waste water from the baths, lavatories and sinks, with connections to the Shanghai Municipal Council's surface water drains. From the water closets and urinals another complete system of piping is connected with Council sewers.

The Heating System

As previously mentioned, there are three distinct systems of heating the new Customs Building, hot air, hot water and low pressure steam. The hot air system works in conjunction with hot water installations (radiators) in the upper portion of the buildings, but it is supplemented only by the low pressure steam for heating the ground floor and the first floor.

The hot air system is in four units served by two vertical high pressure steam boilers. These take 70 pounds to the square inch. They can supply 4,400 pounds of steam per hour at normal steaming. Each of these four systems consists of galvanized iron ducts supplied with air by blower fans situated inside the ducts. These draw air from outside through "Ventex" air filters and thence over the pipe coil heaters fed with steam from the boilers.

The warm air is delivered into the rooms through registers of varying capacities placed at a uniform height of seven feet above the floor line. Outlet registers are installed in the outside walls close to the floor line for the necessary circulation of air. In all, the building's heating system contains approximately 55,000 square feet of radiation surface.

The hot air heating system affords good opportunity to combine with it the ventilation equipment necessary to insuring a good flow of clean air at all times. The upper floors take care of themselves in this respect, but the ground floor and the first floor systems are especially equipped with an Ozonair apparatus, made by the Buffalo Forge Company, New York.

Hot Water Heating System

The hot water heating system need not be confused with the hot water system that supplies the lavatories, baths and sinks. They are entirely separate. The hot water heating system that

works in conjunction with the hot air system is supplied with three horizontal water tube boilers, 18 feet 6 inches long and six feet in diameter, each with a capacity of 4,000,000 British thermal units per hour on a six-hour rating. These boilers are manufactured by Messrs. Balmforth, London. The boilers are connected by headers from which six separate circuits are taken to various parts of the building and branches to the 500-odd radiators.

The return mains are connected with a corresponding return headers and thence through four accelerators to the boilers again. The accelerators are necessary to speed up the circulation owing to the long horizontal runs of piping.

The low pressure steam system, with two more boilers, serves only the main entrance hall on the ground floor, and the Bank of China quarters on the Northwest corner of the ground floor.

There are eight boilers in all in the fire room. All of them are equipped with Ray oil burners of the latest type, and oil is the only fuel used anywhere in the building. The oil supply line has been laid from the foreshore across The Bund to three large steel oil tanks, each with a capacity of 5,250 gallons. These tanks are built into the basement walls and each is cross-connected so that it can be isolated for cleaning or repairs without interfering with the service.

The Ray oil burners, made by the W.S. Ray Manufacturing Company of San Francisco, are of the high pressure type, carrying 150 pounds. Each has a 125 horse power Westinghouse alternating current motor.

An adequate idea of the size of the building and the magnitude of the heating and water systems can be gained from the fact that the building contains 11½ miles of piping.

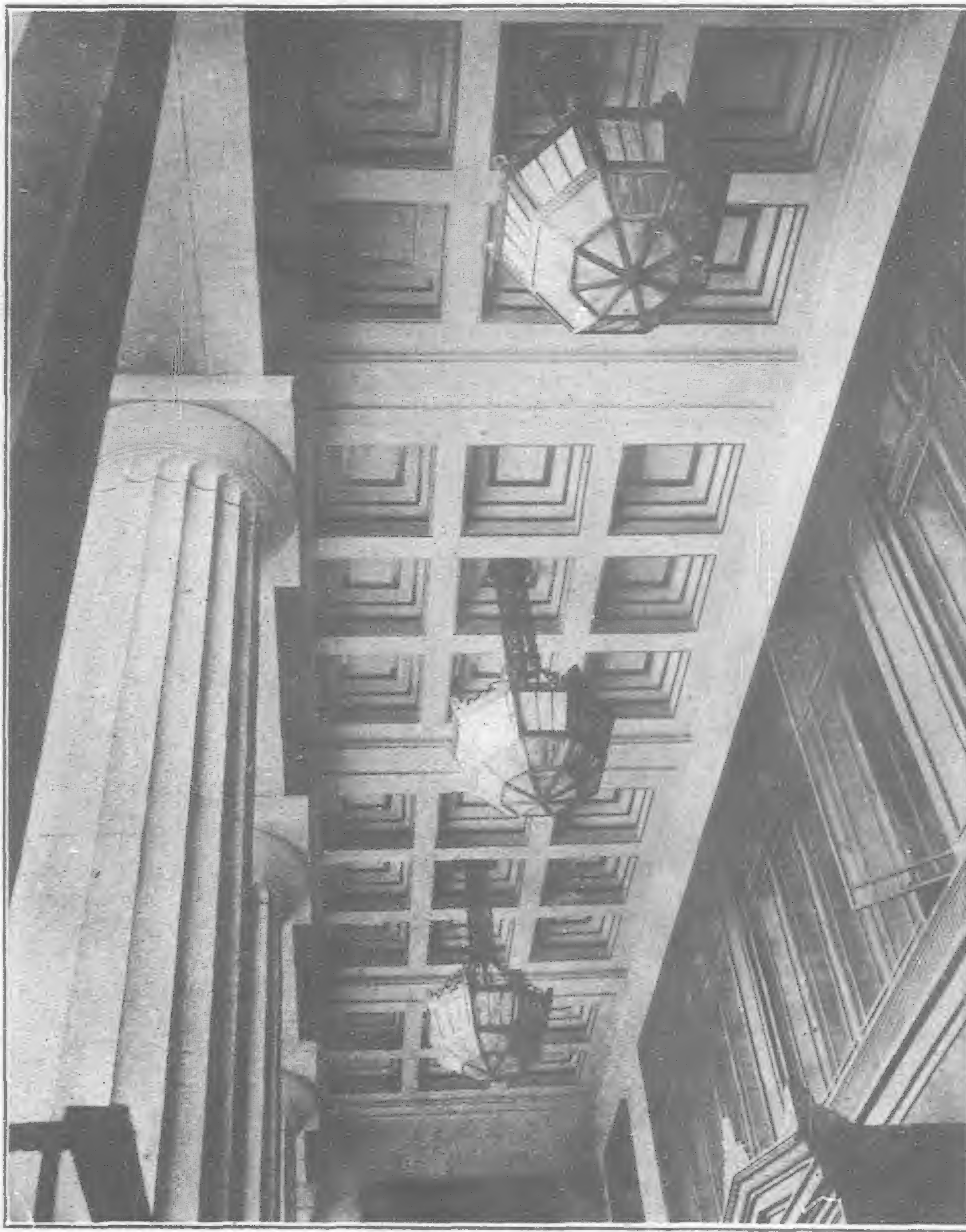
Fire Installation

The fire installation is separate from the other water units. From the deep well, water is pumped into a suction tank of 10,000 gallons capacity and drawn into the fire system by means of a Conqueror Fire Pump, manufactured by Messrs. Allen & Sons, of 80 b.h.p. with a capacity of 400 gallons a minute.

This forces the water through a system of piping to two large cylindrical pressure tanks on the roof, each of 5,000 gallons capacity. The system of piping furnishes 37 inside hydrants and three outside hydrants.

Three pumping connections are also installed to allow the S.M.C. Fire Brigade engines to pump water from the various hydrants when necessary. Pressure in the system is kept up automatically by the fire pump.

All the water used for sanitary purposes is made thoroughly safe for use as it comes from the artesian well by running it through



Ceiling of the Outside Entrance Hall



Office of the Commissioner of Customs

a chlorinator furnished by Wallace & Tiernan of Newark, N.J. This machine both sand filters and sterilizes it before it reaches the storage cylinders.

First Floor Arrangement

On the first floor the extensive general offices of the Chinese Maritime Customs are so placed that they can be approached from five staircases and four batteries of elevators. These lifts, 12 in all, were supplied by the Otis Elevator Company of New York, and the decorative lift fronts by W. S. Tyler & Co., of Cleveland, Ohio.

The deputy Commissioner of Customs and his staff have private offices conveniently located for efficiently supervising the work that goes on in their huge department. The first floor appears to be one spacious office, undivided by partitions except for about 45 feet on the western end. There is space also in the rear for a considerable future expansion of the general office. The first floor is really laid out in two huge wings, connected across the front, or Bund side.

It is in these general offices where the longest counter in the world is located. This counter is 610 feet long, extending down the whole length of one wing, across the front of the building, and down the other side. Back of the counter, which is built of marble slabs and teakwood, covered with green baize and glass-topped, is space for the staff. This office is provided with steel furniture, furnished by Roneo, Ltd., of Shanghai, except for the chairs, which are of wood.

The doors in this floor are all of beautiful imported glass work in bronze and copper glaze, supplied by the Luxfer Prism Co., of London.

Every part of the building is easily accessible by means of covered passages across the courtyard. In the back block on this first floor are four tiffin rooms, each having its own kitchen and pantry. The tiffin room for the indoor staff can seat 40 persons and that for the outdoor staff, 50. The clerk's tiffin room seats 320 and that for the *tinchais* 144.

Tiling and Bronze

The tiling and bronze work is beautiful. The entrance corridor, with its ceiling mozaic, and the main staircase with its wrought iron balustrade and black marble base are outstanding examples of fine interior construction. The staircase and corridor dado, comprising 19,000 feet of tiling specially manufactured by Messrs. The Henry Richards Tile Company, Turnstall Staffs, is carried out in dull glazed tiles of pleasant green, relieved with an ornamental band of dark brown.

The corridor floors and landings are tiled with a simple and effective pattern of ceramic mosaics in black and white. The total area of these surfaces is 62,000 square feet. Eighty-eight thousand square feet of white glazed tiles in light wells and lavatories were manufactured by the Messrs. Maw & Co., Ltd., Shropshire. The total amount of tiled surface in the building is just under four acres, or 24 *Mow*.

All of the tile work was supplied by Messrs. Duncan & Co., of Shanghai, as were the bronze and steel windows, 1,550 in number, and the cast panels, blinds, hinged and sliding shutters, and the damp proofing and roofing material. The windows and metal work were manufactured by Messrs. Henry Hope & Sons, Ltd., Birmingham.

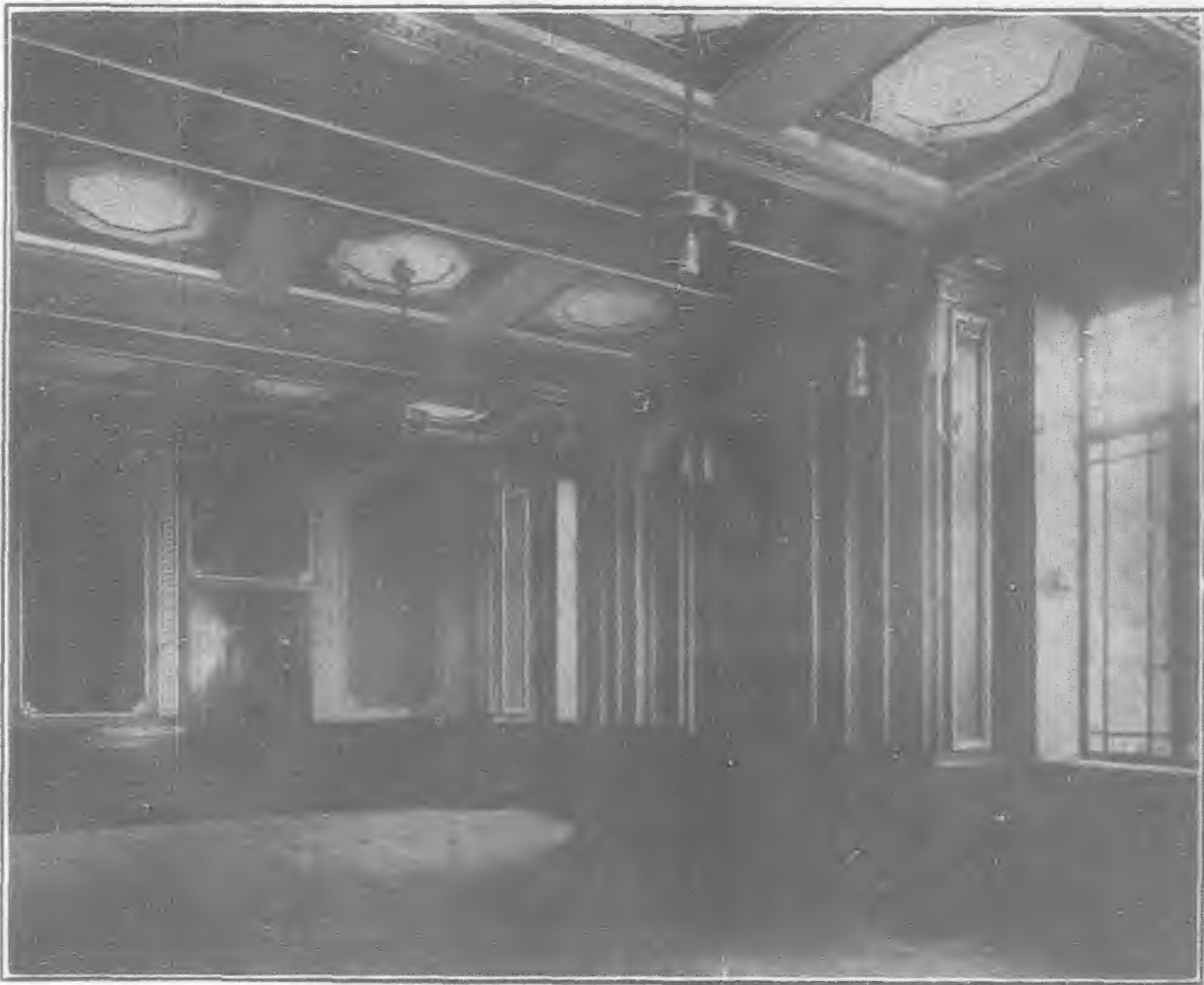
The cast bronze panels on the Bund elevation are in antique green, harmonizing with the general decorative scheme of the exterior. The external blinds are operated from the inside of the windows by winding gear and bronze cords.

They are made of metal throughout, the laths and tapes being of steel. The laths of the interior blinds are of aluminum.

The damp proofing of the building consists of a water proof membrane of Malthoid, completely enveloping the entire foundation raft, a surface of 90,000 square feet. The roofing is also of Malthoid, and covers a total area of 57,000 square feet.

Special Offices

The Appraising Department, subdivided into six sections, is situated at the eastern end of the building on the second floor. Offices for a deputy commissioner and for the chief appraiser are



The Superintendent's Room

on The Bund frontage, and are beautifully decorated and furnished. On the south side of the central block are laboratory and strong rooms, together with offices for the inspector of samples. In close connection with these offices is a specially constructed sound-proof examination room with storage for samples from the wharves adjacent.

On the north side of the courtyard, on this same floor, is a large sample room with ample space nearby for future expansion of the department.

Facing The Bund on the third floor, the superintendent and his staff have their offices in the Northeast corner. The Superintendent of Customs, Mr. F. W. Maze, has what is rightly the finest single room in the new building, finished and furnished by Tai Chang & Co., of Shanghai. It is beautifully finished in teak wood, as are all the rooms above the first floor. The paneled wood work and doors are masterpieces, and the beamed ceiling a work of art. Over the mantle of the marble fireplace is a large picture, painted by a Russian artist, of The Bund as it appeared with Shanghai's first customs house, the old temple, on the spot where the new building now stands.

In the South-east Bund corner is a Chinese room for the Chinese Commissioner of Customs, and adjoining offices for his staff. The general motif of the Chinese Commissioner's room is taken from the Compradore's room in the Hong-kong and Shanghai Bank. Its massive door is of black-wood on one side and teak on the other. The walls are stippled and embossed with gold leaf and liquid gold on a background of brilliant red, with dragon designs. The ceiling is beam-

ed with very dark-stained teak, so dark as to look like black-wood. The ceiling lamps are of beautiful ornate design in Chinese fashion.

Between these two suites is the Board Room, also a large spare office. The accountant, his clerks and strong room are on the north side of this third floor, and the returns offices on the south side. There is considerable storage space for archives on the north side in connection with the accountant's department.

On the fourth floor in the front block the coast inspector and the deputy coast inspector have their offices. Next to them on the South side are the offices of the launch inspector and the light secretary and surveyor, and these offices are closely connected with the chart and instrument rooms. Beyond are the cartographer's offices with a blueprint room and open air balcony for making sun prints. From the Northeast corner of the building, running west, are suites of offices for the engineer-in-chief, the architect, the drawing office and the clerk-of-works department.

The whole of the fifth floor is given up to the Whangpoo Conservancy Board. On The Bund front are offices of the engineer-in-chief and his staff, a board room and a library. The construction and dredging department have offices on the Northern side of the

front block. At this floor level the Northern side of the central block and the whole of the back block becomes a flat roof except for a range of servants' rooms at the Southwest corner of the back block.

Living Quarters

Seldom does any public building contain such palatial and commodious living quarters as are found in the new Customs Building. Four floors are practically devoted to living quarters, though the space above the fifth floor is confined largely to the region under the tower. Besides these floors, however, the back block on lower floors is devoted to large servants' quarters. In the back block on the second floor are 15 bedrooms with service room, bathrooms, and lavatories. A sitting room and private dining room are in close connection with a large mess room and kitchen and pantry. In the back block on the third floor are 21 bedrooms with baths, lavatories and a large service room, and on the fourth floor are 21 more bedrooms.

On the sixth floor are five flats, three in the front block and two on the south side of the courtyard. There is a large hall,

dining and drawingrooms, and three bedrooms and two baths each in three of these flats. The remainder have hall, dining room, drawing room, two bedrooms and one bath. There are ample verandas, cupboards, closets and servants' quarters in every flat. On the seventh floor under the tower are servants' rooms for the flats directly below, and a large space for storage of archives.

On the eighth floor are two large flats under the tower, beautifully finished. Each has a

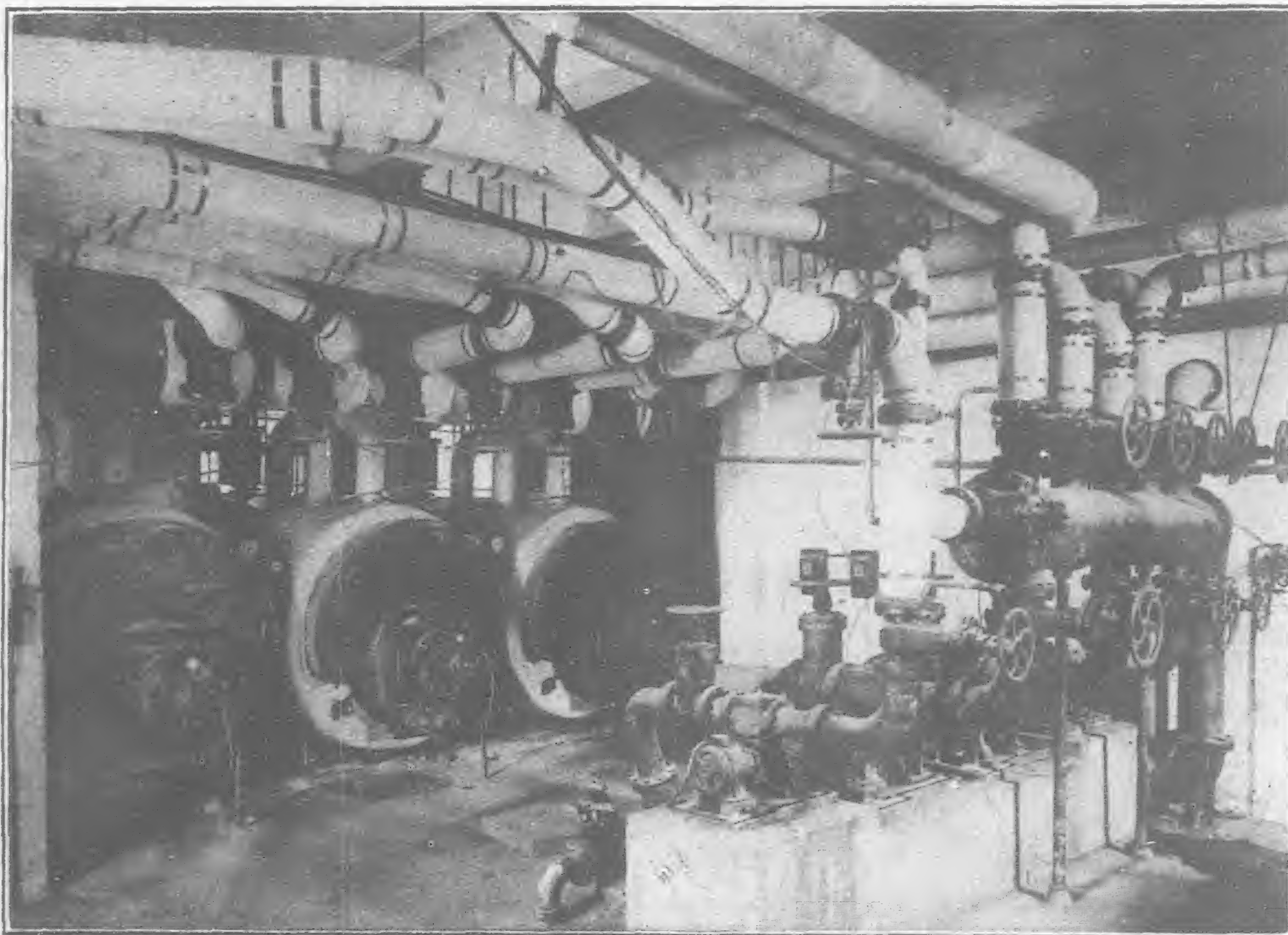
large hall, dining room, drawing room, four bedrooms and three baths. On the ninth floor are servants' rooms for the two flats below, and the lift motor rooms. Lifts run only to the eighth floor.

"Generally," says a statement issued by Palmer and Turner, architects for the new Customs House, "the interior of the building is finished in such a way that the cost of maintenance can be reduced to the minimum, and so that that large public spaces can be easily got at for cleaning."

The Clock Tower

The clock tower, containing "Big Ching," as the clock and its chimes are called, is Shanghai's newest and most outstanding landmark. The flagpole on top is the highest point in the city. The tower contains beside the clock and chimes and all the necessary gear, a harbor signal room and wireless telegraphy outfit. A man will be on watch here day and night, observing river traffic, and making his reports.

A circular iron staircase leads from the base of the clock tower clear to the little balustrade at the base of the flagpole, where an observer can see the city spread out below him like a map.



View Showing the Three Horizontal Hot Water Heating Boilers with Flow and Return Heaters and Mains, also Accelerators with Bye-pass Valves, etc.

The clock itself was manufactured by J. B. Joyce & Co., Ltd., of Whitechurch, England. Its four great faces are of double glass to withstand the pressure of the wind in typhoons, and strongly reinforced with heavy bands of metal. The metal figures themselves afford considerable bracing against the elements. The inside of the tower is glistening with white paint. The clock machinery sets in its cradle in the middle of the tower, two stories above the base of the tower. It is an intricate maze of cogs and levers and cables, run by weights, not springs. Four thick shafts extend from the machinery direct to the center of each of the four dials.

Five big bronze bells compose the chimes, four chimes for the quarter hours and the "Big Ching" proper to gong out the hours. The chimes are set just above the clock machinery, and their bronze tones are struck out by means of trips, weights and cables when the clock machinery gives the word. The bells came from the Taylor Bell Foundry, at Loughborough, England.

There is a clock in nearly every room in the building, and two or more in some of the larger rooms. These are run on a pneumatic system, but are not connected with the tower clock. They are Pul-syn-etic clocks, furnished by Innes & Riddle.

Electric Installation

The "nervous system" of any building is its electric installation. In the new Customs Building this is largely controlled from a main switchboard down in the boiler room. Here big double switches control the lift motors, oil burner blower motors, ventilation fans, water service pumps, the oil pump motor and the fire pump motor.

The General Electric Company of China, Ltd., is responsible for this electric installation. With a few exceptions all the electric lighting fixtures throughout the building were supplied by this company and the main feature throughout the building is the G.E.C. "Britalux" fixture. This fitting is specially suited to offices and similar premises as it is entirely dust proof and the glassware has an exceptionally low light absorption.

The ceiling fans supplied by the G.E.C. are of Emerson make. The inter-office automatic telephone system, of Peel-Connor manufacture, also was supplied and installed by the G.E.C. Fifty lines are installed complete already, with provision for future extension to 100 lines.

The whole installation is controlled by the afore-mentioned switchboard of 15 panels, which is equipped with oil-immersed circuit breakers. This switchboard was specially manufactured by the General Electric Company, Ltd., of England, and shipped to Shanghai from their switchgear works at Witton.

Foundation Construction

The whole structure of the new Customs Building is set upon a raft, which takes the form of a continuous slab of reinforced concrete, varying in thickness from 16 inches to as much as 24 inches under the tower. It is stiffened in both directions by ribs which form the reinforced concrete beams, and are generally about 22 feet apart. They have normally a depth of six feet, including the bottom slab, but under the tower they are increased to a depth of nine feet.

The steel columns of the superstructure rest upon the tops of these beams at their intersection. Under the tower the total load coming down upon four small areas under the four corners is 6,700 tons, and this load is distributed by the raft over an area of approximately 3,600 square feet. Of this total load, 2,240 tons are carried by the direct buoying action of the soil upon the raft, and 4,460 by the 225 concrete piles sunk in the area. These piles are of reinforced concrete, 50 feet long and 16 inches square. The surface of each pile is serrated to give additional friction resistance.

The soil on which the building rests is nothing but soft mud. Bore holes have been sunk in Shanghai to a depth of 970 feet, but instead of coming across more solid matter the substance remains soft for all its depth. The piles therefore do not rest on anything more solid than that on which the raft is built, but they add much to the resistance of the raft by virtue of the additional skin friction between them and the mud.

To transmit these heavy loads over so small an area, great strength is required in the reinforced concrete beams. The main steel rods are $1\frac{1}{4}$ inches in diameter, and the larger beams have

16 such rods in their tension sides. Shear strength has to be very carefully considered with beams of this kind, and both bent-up rods and stirrups have been used for this purpose.

Settlement

Even after taking all possible precaution, some settlement is bound to occur on soil of this kind. This is not dangerous to the structure provided the whole building settles at the same speed and the same amount. To insure this it was essential to proportion the carrying capacity of the back of the raft to its particular load, so that no portion should tend to settle more than any other.

This has been effected by so distributing the piles so as to provide for each section of the raft exactly the additional resistance, over what the soil itself will carry. In structures of this kind it is just as dangerous to increase the bearing value by excessive piling of one part of the site as to space the piles too far apart, because the part that is overpiled would fail to settle with the rest, and cause the building to lean.

The safe pressure on the soil permitted by the Public Works Department is only 1,700 pounds per square foot, and it is remarkable that buildings of the magnitude of the Customs Building can be put up at all in this region. It is usual to estimate beforehand what the settlement will be, and to build the structure above the final level by this amount. In designing buildings for the Hongkong and Shanghai Bank, the Chartered Bank and the Yokohama Specie Bank, the ground floor was set 12 inches above where it was expected to rest. Temporary steps were erected from the street and removed one at a time. Actually the movement of the Hongkong Bank up to the summer of 1924 was from 4 to $6\frac{1}{2}$ inches.

List of Firms

General contractor.—Sing King Kee, Shanghai.
Steel and bronze windows, borrowed lights and venetian blinds.—Henry Hope & Sons, Birmingham, England.
Skylights, bronze doors and screens, general decorative bronze work and electro-glazing.—Luxfer Prism Co., London, England.
Tower clock.—J. B. Joyce & Co., Whitechurch, Salop, England.
Interior clocks.—Gent & Co., "Pulsynetic," Leicester, England.
Bells.—Taylor Bell Foundry, Loughborough, England.
Glass for clock faces.—J. B. Joyce & Co., London, England.
Steel shutters.—Potterax Gate Co., England.
Cast iron gates.—MacFarlane & Co., Glasgow, England.
Electric installation, fans and fittings, inter-office telephones.—General Electric Co. of China.
Lifts and book lifts.—Otis Elevator Co., New York, U. S. A.
Lift fronts.—W. S. Tyler & Co., Cleveland, Ohio.
Book room doors.—Ratner Safe Co., London, E. C. 4, England.
Strong room doors.—Chubbs Safe Co., London, E. C. 4, England.
Structural steelwork.—Braithwaite & Co., London, England.
Heating, ventilation and plumbing.—Shanghai Waterworks Co., Shanghai.
Marble, gramic and mosaic.—B. Bertucci Esq., Shanghai.
Lightning conductor.—Jardine Engineering Corp., Shanghai.
Calorex glass.—Chance Brothers, England.
Bricks.—Kailan Mining Administration, Shanghai.
Granite.—S. V. Chen Kee, Shanghai.
Decorative joinery.—Tai Chong & Co., Shanghai.
Floors.—G. W. McBain & Co., Shanghai.
Glass.—Pilkington & Co., Shanghai.
Tiling.—Duncan & Company, Shanghai.
Waterproofing.—Duncan & Company, Shanghai.
Sanitary fittings.—Shanks & Co., England.
Boilers.—General Electric Co., of China.
Artesian well.—China Deep Well Boring Co., Shanghai.
Deep well pump.—John I. Thornycroft & Co., Shanghai.
Painting.—R. H. Felgate & Co., Shanghai.
Locks and door furniture.—N. F. Ramsey & Co., England.
Stair treads ("Alundum").—William Jacks & Co., Shanghai.
Steel furniture.—Roneo, Limited, Shanghai.
Wood furniture.—Tai Chong & Co., Shanghai; China Woodworking & Dry Kiln Co., Shanghai; Weeks & Company, Shanghai; Sing Tai Furnishing Co., Shanghai; Wal Shion & Co., Shanghai.
Six Outside bronze lanterns.—Shanghai Engineering & Plating Company, Shanghai.

Dairen as a World Port and its Relation to the United States

By Yoshiro Shinozaki, Chief Secretary of the Dairen Chamber of Commerce

DAIREN, when compared with Hongkong, Shanghai, Kobe and Yokohama, does not stand at present on the same level with respect to trade. But Dairen dates back only thirty years in its history, while Hongkong has a history of more than eighty years and Kobe and Yokohama of more than sixty. When we come to think of its immense hinterland full of virgin soil, where four hundred thousand immigrants come every year from various provinces such as Shantung to help the development, where the extension of railways are being carried out, encouraging the increase of production, where the purchasing power tends upwards with the elevation of the standard of living, the port of Dairen occupies the most favorable position and its future promises every prosperity.

Soon after the acquisition of the lease of Port Arthur and Dairen in 1898, with various privileges such as the building of railways, Russia made Port Arthur the headquarters of her policy in the Far East, concentrated there her navy and army and her administrative offices, and fortified the port on land and sea. With a view to establishing a great commercial seaport, Russia dispatched her naval and military officers and experts along the coastal places and investigated the conditions on land and sea. At last Dairen was selected as the best site for a commercial port, and Russia began to build a modern city and port on gigaantic scale. Russia ordered the Chinese-Eastern Railway Company to undertake the work, and the company appointed an engineer-in-chief to superintend the works, both military and commercial. Russia's first plan for port building was to complete accommodations for berthing one hundred vessels of 1,000-ton type at the same time, so that the port might be able to handle about 5,000,000 tons of exports and imports. For the above plan Russia at first invested 10,000,000 roubles.

When Russia was about to accomplish her second plan with an estimate of 30,000,000 roubles in 1904, the Russo-Japanese war broke out and she was obliged to suspend her work. As the result of the war the administration of the port was transferred into the hands of the Japanese government, and April, 1907, witnessed the establishment of the South Manchurian Railway Company. The South Manchurian Railway Company generally adopted the Russian plan, but the state of the wharf as left by Russia was far from being perfect. The South Manchurian Railway endeavored to complete the port; until now the company has finished half its program.

The Present State of the Port

The basin is enclosed by the northwest breakwater 12,215 feet in length and the east breakwater of 1,221 feet, the water area inside the breakwaters being 3,135,000 square metres with the depth, at low water ordinary spring tide, of thirty feet on an average. The berthing is divided into thirty-seven sections, with the accommodations for berthing thirty-seven vessels of 3,000-20,000

ton type at the same time. The railway company planned a further extension of the port, and in 1923 started the construction of the Fourth Wharf and Wharf "C," which are expected to be finished in 1930. When completed the berthing quay line will be increased by 5,000 feet. Besides the above, the port has a berthing bank for junks engaged in the coasting trade with the length of 4,048 feet which is capable of berthing 300 junks, small or big. The amount invested by the company in port installations up to 1926 is Y.52,577,331, of which Y.12,884,636 has been spent in the construction of the quays.

The Position of Dairen in the China Trade

The total foreign trade of China in 1926 amounted to Tls. 1,988,516,025, showing an increase of Tls. 264,298,143, as compared

with that of the previous year. As compared with Tls. 1,507,377,976 in 1921, it shows a great increase of 32 per cent. The percentage of the exports and imports is 57 per cent. import against 43 per cent. export, showing the excess of imports over exports, which is characteristic of the Chinese trade. There are forty-six maritime customs establishments throughout China, the principal ones being Shanghai, Dairen, Tientsin, Canton and Hankow. The foreign trade of these five great trading ports amounted to

Tls. 1,278,000,000 occupying 72 per cent. of the whole of China's foreign trade. Therefore, it may safely be said that the ups and downs of these five ports have much to do with the Chinese foreign trade in general.

Recent figures relating to these five ports are as follows:

Foreign Trade of the Five Great Ports of China

				(Hk. Tls.)		
				Imports	Exports	Total
Shanghai	...	...	1924	483,469,942	289,178,714	1,696,215,383
			1925	431,887,836	315,363,345	747,251,181
Dairen	...	...	1924	77,160,431	127,761,419	204,921,850
			1925	77,991,545	130,632,492	208,624,037
Tientsin	...	...	1924	76,132,448	48,242,289	124,374,737
			1925	85,087,916	62,777,041	147,864,957
Canton	...	...	1924	45,019,748	83,438,361	137,458,109
			1925	40,430,586	50,148,432	90,579,018
Hankow	...	...	1924	60,713,522	19,873,377	80,586,899
			1925	54,015,064	30,050,278	84,065,342

Remarks: 1. The above figures do not include those of domestic trade.

2. The average conversion rates of Hk. Tls. against the U.S. dollar:

1921 ... 76c 1922 ... 83c ... 1923 80c 1924 ... 81c 1925 ... 84c

As seen from the above figures, Dairen does not match Shanghai in the foreign trade, but it has kept the second rank every year, surpassing Tientsin, Canton and Hankow.

It must not be forgotten that in China the movements of commodities in the interior are made only by steamships and junks



Nippon Bridge, Spanning the South Manchuria Railway, Dairen



Soya Beans, Open Storage. Some Idea of the Immense Bean Crop Harvested in Manchuria and the Importance of this Industry to the Local and Foreign Trade can be Formed from this Picture

on account of the vastness of land and the undeveloped condition of roads, and, therefore, the coasting trade amounts to an enormous volume. Shanghai, Hankow and Tientsin deal more in domestic trade than in foreign trade. The recent figures showing the total of both foreign and domestic trade at the five ports are as follows :

				(Hk. Tls.)		
				Exports (Foreign & Domestic)	Imports (Foreign & Domestic)	Total
Shanghai	...	...	1924	876,368,248	819,847,135	1,696,215,385
			1925	865,693,424	839,386,864	1,705,080,288
Dairen	...	...	1924	110,401,277	153,565,566	263,966,843
			1925	121,259,713	183,650,029	304,909,742
Tientsin	...	...	1924	168,728,208	90,988,128	259,716,336
			1925	192,779,327	103,605,372	296,384,699
Canton	...	...	1924	116,517,517	98,439,169	214,956,686
			1925	112,077,201	104,262,106	216,339,307
Hankow	...	...	1924	186,942,098	210,727,709	397,669,807
			1925	199,306,120	220,718,609	420,024,729

Dairen the Chief Importer of American Products

The first open port in Manchuria was Newchwang, opened by the treaty of Tientsin in 1861, and the Customs House was established in 1864. Since then Newchwang as the only trading port in Manchuria yearly developed its trade. With the establishment of the Chinese Maritime Customs at Dairen, Antung and Ta-t'ung-k'ou, Newchwang was naturally deprived of her prosperity mainly by the port of Dairen. Ninety per cent. of the trade between Manchuria and the United States is being carried on at present through Dairen, only 8-10 per cent. through Newchwang, and almost none through Antung. Following are some figures bearing on this trade :

Trade Between the United States and Dairen-Yingkou (Newchwang)-Antung

(Figures refer to Haikuan Taels).

Years	Imports	Exports	Total
1923	16,598,475	7,363,603	23,962,078
1924	20,991,658	6,277,820	27,269,478
1925	14,390,763	8,134,613	22,525,376

Future of American-Manchurian Trade

The total area of Manchuria is 382,869 square miles, while the population is assumed at present to be 25,700,000. In 1910 the population was about 15,500,000, showing a sudden increase by 10,000,000 during the past sixteen or seventeen years. The number of

immigrants from China proper and Shantung province has amounted to approximately 400,000 per annum. There is no doubt that the population of Manchuria will greatly increase with the development and naturally the exports and imports will accordingly decrease. The Chinese authorities and people in Manchuria are now enthusiastically planning the building of railways, and it may be easily imagined that the industrial products of the United States will be greatly demanded in Manchuria in the future.

Shipping Between Dairen and the Ports of the United States

The growth of international trade is first started by opening communication routes. There is at present no steamship company which maintains a regular service between Dairen and the United States making Dairen as a port of call or a terminus. The Nippon Yusen Kaisha and the Osaka Shosen Kaisha each arrange a big freighter of 9,000-ton type once a month, but it is not a regular service. This may be due to the fact that there are few passengers to and from the United States at present, and most passengers find it convenient to go through Shanghai or Yokohama. There is a tendency, however, that steamship companies competitively appoint tramps to Dairen, and as their destinations can be changed at any time according to the nature of the cargo, it seems that there exists no shortage of carrying facilities in the shipping between Dairen and the United States.

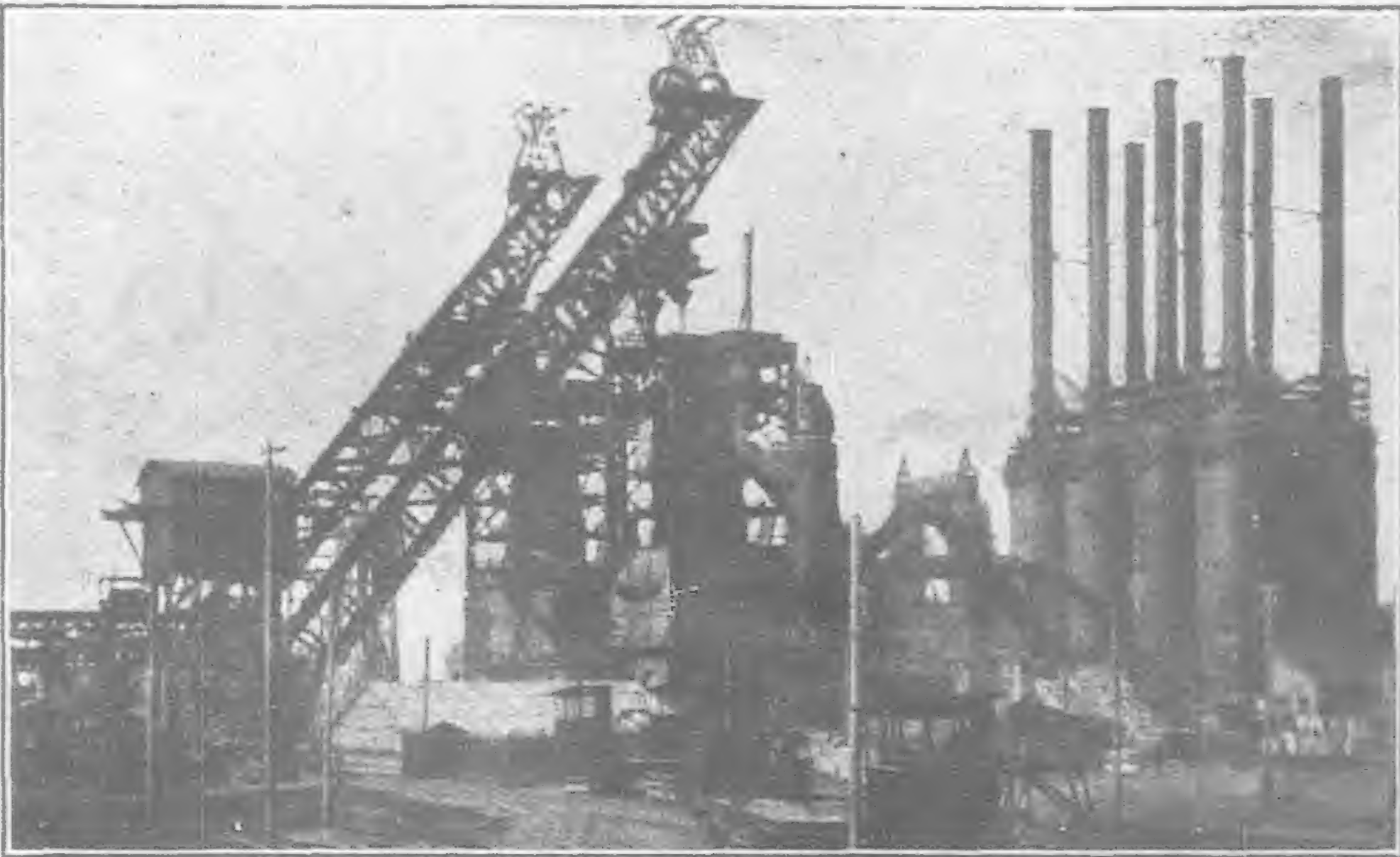
There are a great many tramps coming in and going out of Dairen. The reasons are that the tonnage of exports from Dairen is made enormous by the nature of the goods and that Dairen is to be regarded as an important port by shipping merchants from a business point of view. Accordingly, the number of ships in and out of Dairen is now very large.

In 1926, the total number of ships was 3,759, totaling 9,131,047 tons, of which the Japanese ships aggregated 2,567 (70 per cent) ; the Chinese, 740 ; the British, 234 ; the German, 71 ; the American, 63 ; the Norwegian, 29 ; and the Dutch, 22.

The steamship companies who send their ships to Dairen are :

- The Nippon Yusen Kaisha,
The Osaka Shosen Kaisha,
The Kawasaki Steamship Co.,
The Admiral Oriental Steam-
ship Co.,
- The American Mail Steamship Co.,
The Barber Line,
The Bank Line, Ltd.,
The Blue Funnel Line, and others.

The average number per month (since January this year) of the steamers entering Dairen from the United States and those



Anshan Steel Works of the South Manchuria Railway

which left Dairen for America was eleven, of which five were Japanese, two were British, and four were American.

Trade Between Dairen and the United States

The trade between Dairen and the United States has been very insignificant before the European war, amounting to only Hk. Tls. 1,580,000, of which imports were Hk. Tls. 1,450,000, and exports Hk. Tls. 130,000. Up to 1916, no significant development was seen, but in 1917, the whole trade suddenly went up to Kk. Tls. 21,000,000, and in 1918, Hk. Tls. 39,000,000. This sudden increase was due to the suspension of the trade with the European countries, and the import of iron and machines was entirely from America, while the export of bean oil was made through America. With the end of the war, a decline was expected, but almost no decline in imports was witnessed. As to the exports, a temporary decline was experienced, but at present they tend to an increase. The following list will serve to show the ups and downs of the trade with the United States.

Trade Between Dairen and the United States

(Hk. Tls.)			
Years	Imports	Exports	Total
1913...	1,450,947	131,194	1,582,141
1914...	3,657,210	710,003	4,367,213
1915...	1,605,405	415,200	2,020,675
1916...	2,029,571	2,548,580	4,578,151
1917...	5,340,911	15,919,510	21,260,421
1918...	11,031,850	28,356,499	39,388,349
1919...	18,655,632	10,330,213	28,985,845
1920...	11,579,771	7,047,965	18,627,736
1921...	11,918,841	2,587,739	14,505,780
1922...	14,898,131	4,440,178	19,338,309
1923...	14,789,486	7,265,897	22,055,383
1924...	18,935,429	6,101,403	25,036,832
1925...	12,294,773	7,887,472	20,182,245
1926...	14,956,206	8,847,618	23,803,824

The chief articles of import are wheat flour, kerosene, tobacco, iron and steel. Next comes machines, oils, gasoline, vehicles (chiefly motor cars), tools, hides, paper, electrical materials, building materials, railway equipment, timber, foodstuffs and clothing.

The import of wheat flour into Dairen in 1926 amounted to 1,557,797 piculs, the value of which being Hk. Tls. 9,497,094, of which 690,000 piculs came from Japan, 472,001 piculs from Canada and 395,796 piculs from the United States. Though the United States ranked second in 1926 she had always occupied the first rank before that year. The increase of import from Japan is due to the dumping, which was the result of the excessive import into Japan during 1925. This phenomenon must be regarded as a temporary one and it is expected that the flour from the United States will soon recover its former position. It is, however, observed that of late the flour from the United States is being placed in competition with that from Canada. The entire import trade into Manchuria is through Dairen.

The import of kerosene into the port of Dairen in 1926 was 7,549,311 gallons, worth Hk. Tls. 2,536,770, of which 7,337,561 gallons were from the United States, valued at Hk. Tls. 2,387,800, almost entirely monopolized by the United States. The import in 1926 considerably declined as compared with that in the two previous years, but the decrease was not owing to the change in demand: it was considered to be only a reactionary phenomenon of the excessive import in the previous year. About thirty per cent. of the import of kerosene was through Newchwang (Yink'ou).

The United States absolutely controls the market of tobacco. The amount of import increases or decreases according to years, but it is due to the import of the goods stored in Shanghai or to the amount of production of the works of the British-American Tobacco Company in Manchuria and is not due to the competition with other countries or a sudden decline in demand. Therefore, it may be safe to say that the import will be increased gradually.

The import of iron and steel into Dairen in 1926 was 1,898,282 piculs, valued at Hk. Tls. 8,107,170, showing a considerable increase as against the figures in 1925 (1,536,385 piculs—Hk. Tls. 5,909,170). The import from the United States also increased. That amount is small, however, for the United States is known as an iron producing country, and the import from that country occupies only eighteen per cent. of the entire import trade. Even when we add the import through Shanghai the percentage is only twenty. It must be remembered, however, that a considerable volume of the American

origin is included in the import from Japan. Therefore, it may be concluded that the tendency is toward the increase of the import of iron from the States.

Among articles other than enumerated above which tend to increase are vehicles (especially motor cars), gasoline, hides, paper, electrical materials, railway equipments, metals other than iron and steel, foodstuffs and clothing. The decline of import of machines is due to the gradual development of manufacture in Japan, and also to the competition with the German makes.

The first of the exports from Dairen to the United States is bean oil, with bean cake next, oils other than bean oil, cereals, seeds, bristles, wool and fur following. These are all on the increase. However, as compared with the import trade the kinds are simple and the amount does not come up even to half of the imports. When the re-exports are added they equal about 60 per cent. of the imports.

The Present Status of the Kuomintang

(Continued from page 65).

opposition by any means. It justifies what might be termed political unscrupulousness by the assertion that the blind adherence to academic legalisms has almost destroyed the party and that the existence of the Kuomintang is essential to the welfare of China. This group manages to survive all changes in the Kuomintang.

The Communist Party of China is at present interdicted but it would be a fallacy to suggest that it has no vitality. The discipline which the Russians introduced has been strengthened by the necessity for secrecy since the Party Purification Movement was inaugurated. The Communists are active; their programme is clear; their tactics are certain. The Russians have provided them with an ideology and a mode of procedure which makes them, in some respects, even more powerful as a political organization than the Kuomintang itself. The fact that membership is secret, that even the Kuomintang has no means of discovering who are members of the Communist Party of China, strengthens its power of opposition and its capacity to undermine the Kuomintang.

The Right Wing is scattered. Most of the members have gone abroad. They admit that the Russian programme and tactics are unsuitable for China, but they also maintain that it is impossible for the Kuomintang to recede to the position previous to the 1924 Party Congress. They are in search of a revised programme and a new party organization basically suited to China yet grounded in the experience of western countries which have gone through revolutionary processes since the Great War. They may find in their investigations that they must return to Chinese methods and that the political developments in Europe and America are unsuited for adaptation to China. Or they may evolve something which will force them to organize a new Kuomintang or a new party, in opposition to the dominant Centre. That, of course, is a mere guess. They may return to the fold after their visits to Europe and America and serve on the Central Executive Committee with the Centre.

The significant fact is that the Kuomintang is by no means without vitality. During November and December, the spirit of the Chinese people and of the Kuomintang members was more depressed than at any time since 1924. It was even felt that the Kuomintang would shortly disappear from Chinese affairs, except as a body of protest centring its activities in Kuangtung. From this state of dejection, the Kuomintang has apparently renewed its vitality.

The lowest ebb in the party's history was the moment of the appearance of the correspondence in the vernacular press between Mr. Wu Tze-hui and Mr. Wang Ching-wei in December. From that time of hopelessness, the Centre has acceded to power and has brought a renewed vigour to the Party. The 4th Plenary Session was perhaps illegal and has undoubtedly accentuated the split between the Right Wing and the Centre, but its mere meeting, the assumption of responsibility and the proof of the continuity of the existence of the party, has quieted the murmurings of defeatism. It is wrong to assume that the Kuomintang has almost disappeared, for all political calculations based upon such an assumption will lead to error. The fact is that the Kuomintang continues to influence the political and administrative affairs of nine provinces directly and four provinces indirectly. This is a huge slice of China and for good or evil, any party which can make its will felt in so much of China, must be taken seriously in any understanding of the problems facing China.

Report on the Shui Kou Shan Lead and Zinc Mine, Hunan

By C. C. Liu, C. C. Tien and C. Y. Ou Yang

This interesting report appears in the "Bulletin of the Geological Survey of Hunan," Changsha, Hunan. Mr. Y. Y. Li is Director of this Survey.

THE Shui Kou Shan lead and zinc mine which, up to the present time, is one of the very few metal mines in China operated by modern practice, is situated a few miles south of Siang river in the southern central part of Hunan province (see Fig. 1). It is 9.5 li distant from Sung Po, the loading station on the Siang river, 75 li from Chang Ning Hsien, 120 li from Heng Chow and 620 li from Changsha, having a latitude of $26^{\circ} 40'$ and a longitude of $112^{\circ} 26'$. The mine is well located as regard transportation facilities. A light railway with 20-lb. rail built to 60 cm. gauge, runs north from the mine to Sung Po. Between Sung Po and Heng Chow freight is usually carried by Chinese junks, but during high waters, occasionally by steam boats. From Heng Chow to Changsha steam boats are available throughout a greater part of the year except during low water season, from about November to March, when only small launches can pass.

Existing records show that the mine has been worked by the native people for the past 300 years, dating back to the end of Ming dynasty (A.D. 1600). In the close of the last century, the mine stopped operation owing to the difficulties and costs of working at depth. It was in 1897, the 23rd year of Kuang Hsu, that the mine was taken over by the Hunan Provincial Government and then the Governor of Hunan established what was called the Hunan Provincial Mining Board. Operations were re-started, but still in the most primitive way. The results obtained were disappointing and the necessity of replacing the native methods by modern practice was soon realized. In 1906, consequently, modern machinery was introduced and the mine re-organized. The present inclined shaft was sunk and a dressing plant of small capacity was built. The latter was replaced by a new plant of bigger capacity put in commission in 1912.

Topography and Geology

The topographic feature of the Shui Kou Shan district consists of two isolated hill ranges with an alluvial plain extending between. They arrange themselves after the fashion of a Chinese character "八" (eight) or a truncated Greek letter λ and are tectonically disposed with a remarkable symmetry, namely a synclinal fold sharply turned towards the alluvial plain. The hill ranges rise up to an average height of about 250 meters and run nearly S-N which is also the trend of their tectonic axis. The alluvial plain which lies between them is the largest in the region surveyed, about 2.5 li wide by 20 li long, and extends northward to the Siang river. It is along this plain that a light railway was built from the mine to Sung Po.

As regard to geology it is characterized by two prominent series of sedimentary rocks, viz. the Silurian quartzite and the Permian limestone and coal series, which

were intruded in the inner western limb of the synclinal fold by a big mass of quartz monzonite (?) and which are unconformably overlain by the red formation of probably Cretaceous in age. The quartz monzonite occurs between Shui Kou Shan and Lung Wang Shan like a laccolith in nature and forms many low hills standing in front of the main range. On the west it comes into contact with the Silurian quartzite, and the north and the southeast with the Permian limestone and coal series. The Silurian quartzite dips into the mass at an angle of 30° , and owing to its enduring nature it usually builds up the highest range of the surveyed region. So far as observed in the field, no exposure of limestone could be found, being entirely hidden underneath either the alluvium or the red

formation. Through the underground work of the mine it was found that the limestone carrying the so well known lead and zinc deposits had been thoroughly metamorphosed into white marble and directly lies between the Silurian quartzite below and the siliceous shale of the Permian coal series above. The siliceous shale as exposed along the hill foot near by the Shui Kou Shan railway station is steeply inclined towards E.N.E. with a dip angle of $70^{\circ}-80^{\circ}$ and is directly overlain by the red formation which dips nearly in the same direction but at an angle of not more than 50° . The discordant contact of these two formations is quite remarkable and can be directly observed in the field. The red formation is composed of an alteration of red sandstone and shales with a total thickness not less than 1,000 meters. On a hill slope about one half li north of the main shaft (shaft No. 1) we found the red formation with a local massive conglomerate also unconformably lying upon the siliceous shale. This conglomerate is chiefly composed of somewhat water-worn pebbles of white marble and grayish white quartzite set in a blood red, sandy and calcareous cement. The size of the pebbles varies greatly, ranging from 2mm. to 6cm. or more. From the largest and somewhat angular marble pebbles simple corals and *Fusulina* have been found. It then becomes evident that this conglomerate is the real basal of the red formation and derives most of its material from the underlying Permian limestone and Silurian quartzite. A section, carefully made at Shui Kou Shan as to reveal the succession of the strata in the western limb of the synclinal fold, is shown in PL. I, Sec. A-B.

At Lung Wang Shan on the south of the quartz-monzonite mass a series of whitish to redish-gray quartzose sandstone with its underlying coal-bearing series is exposed and seems to be in a fault contact with the igneous mass. These strata generally dip towards NW. with an angle gradually increasing upward from 25° to about 50° . In the upper part of the coal-bearing series we found very abundant plant fossils in a black bituminous shale but all preserved in a very poor condition.

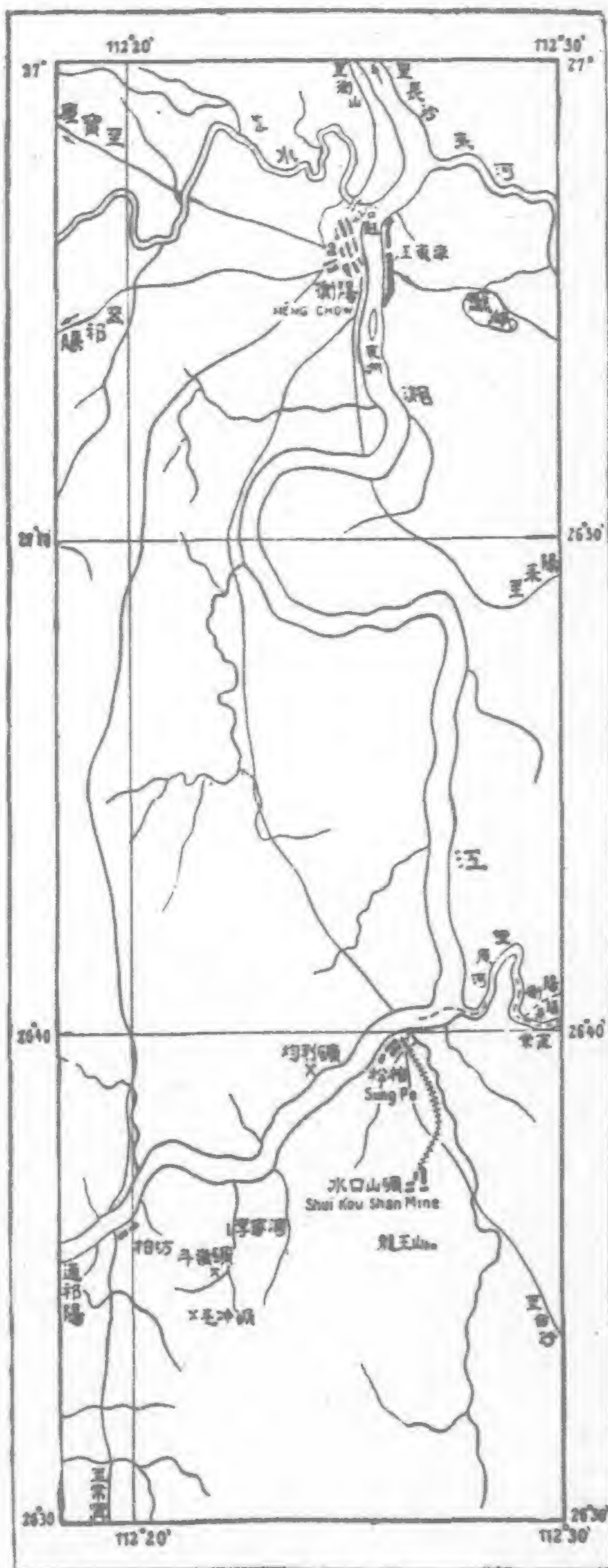


Fig. 1.—Map Showing Location of Shui Kou Shan Mine, Scale 1:350,000

Probably below this fossil plant bed in the same coal-bearing series at Tou Ling about 15 li southwest of Lung Wang Shan or 20 li west of Shui Kou Shan (see Fig. 1) we were fortunate in a dark calcareous shale to find *Gastrioceras zetteli*, *Gastrioceras liui* and some *Productus*. From this finding the coal series and its underlying limestone are definitely determined to be of Permian age and are most probably equivalent in horizon to the middle and lower part of the Wushan limestone at the Ichang gorge of Hupeh.

Regarding the geological age the red formation, on the basis of its lithological characters and its superposition, we refer it to the Cretaceous and correlate it with the red formation occurring in Central and South-eastern China. This formation is very widespread in the surveyed region and in many places covers the quartz monzonite, gently dipping toward E.N.E., and no metamorphic effect is indicated. So this formation appears to have not been affected by folding and metamorphism.

From the outlined character of these formations we can judge here that in the Shui Kou Shan district the date of the orogenetic movement is pre-Cretaceous, most probably during the Jurassic time, and this took place before the intrusion of the quartz monzonite.

Ore Deposit

The lead and zinc deposit was developed entirely in the Permian limestone near or at the contact of the quartz monzonite, roughly following a curve from the southeast to the west (Fig. 2). The deposit usually occurs in the form of large irregular chambers or pockets, but sometimes also occurs in the form of open space veins with a symmetrically banded structure. According to the statements of the miners, up to the present, such six ore chambers have so far been found. They are all located at the depth of about 40 meters below the ground surface and most of them have been followed downward to 100 meters. Among them the largest is Chamber A 3 which lies with its large portion between the first

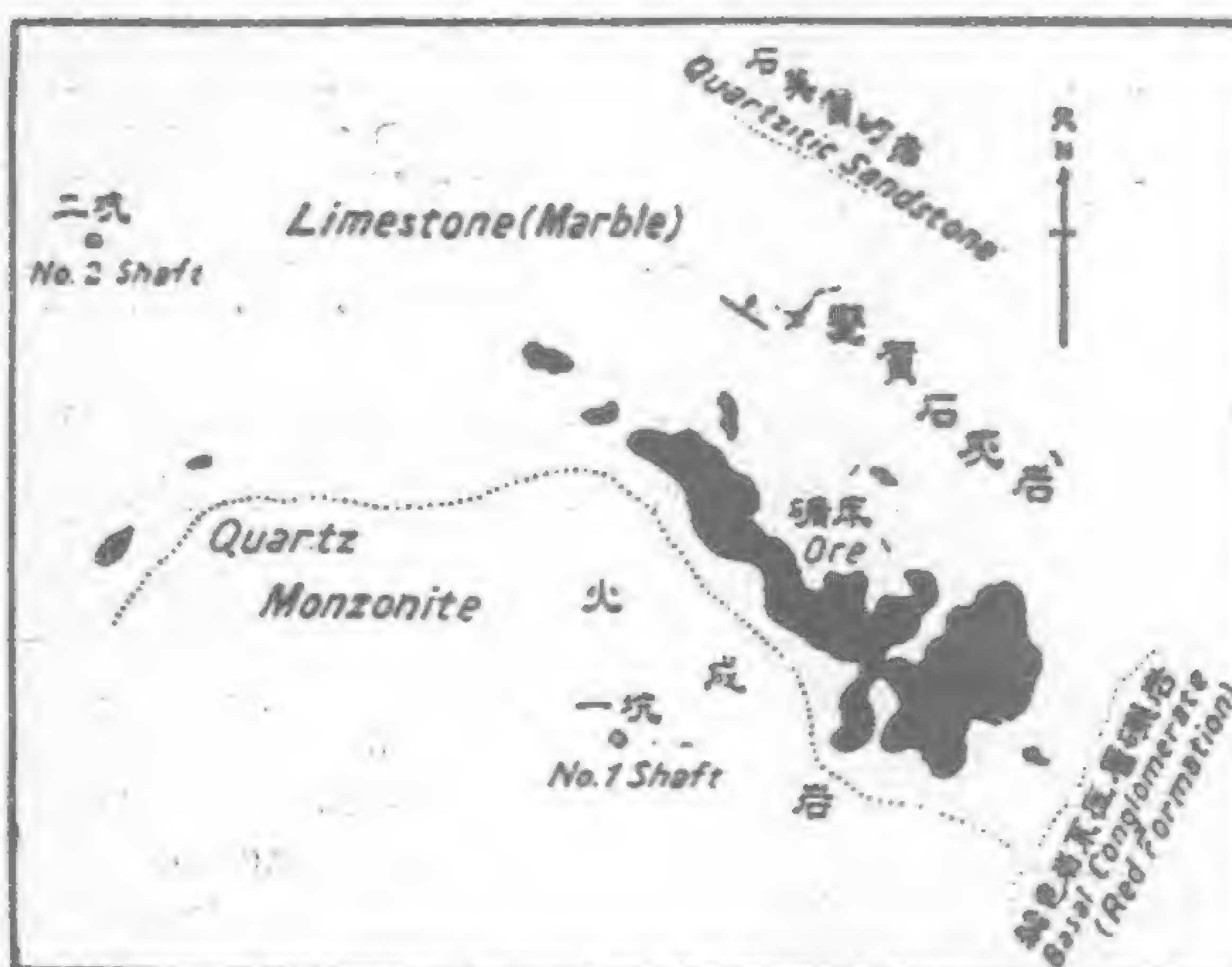


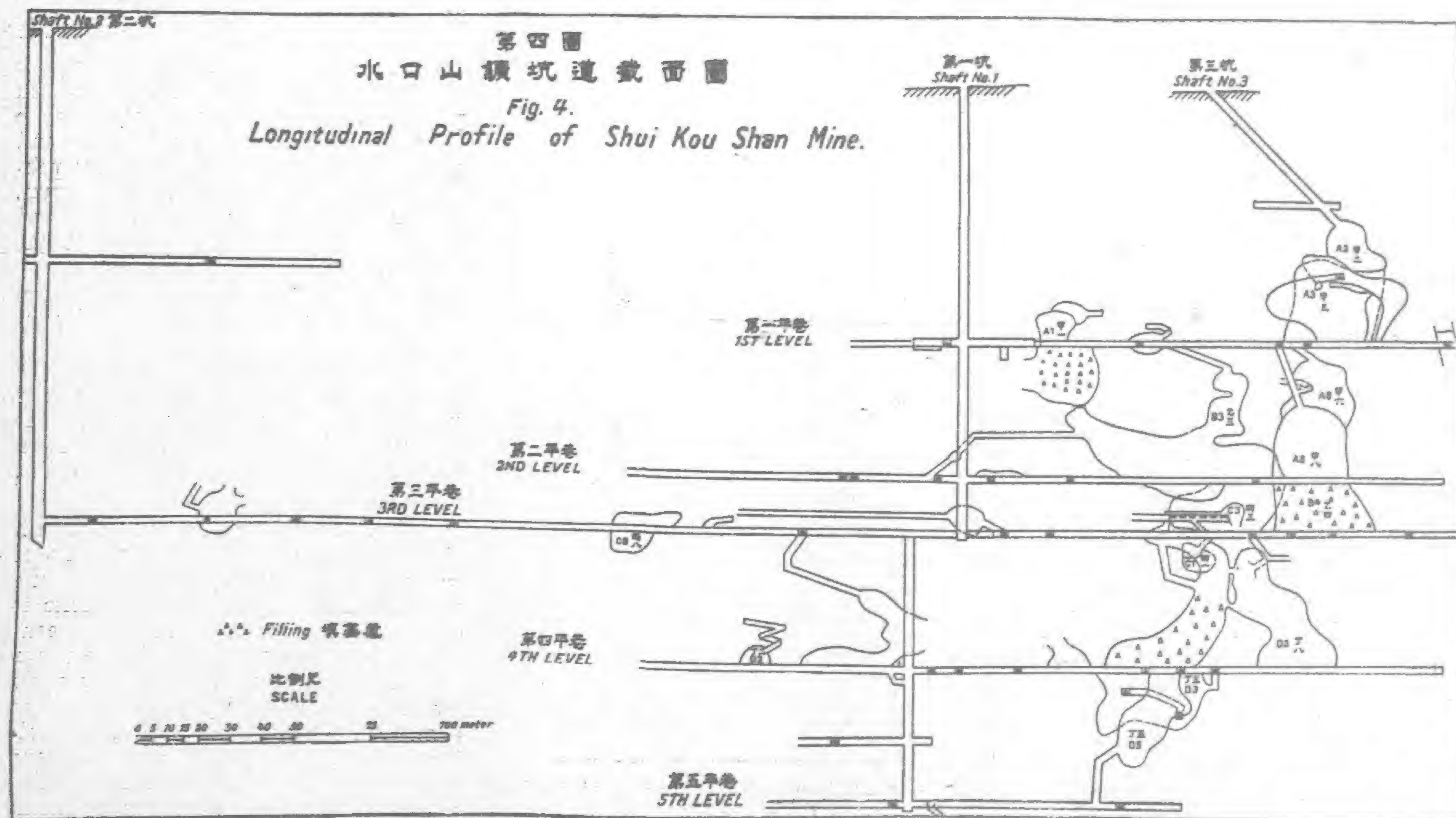
Fig. 2.—Underground Map of Shui Kou Shan, Illustrating General Distribution of Ore Bodies with Reference to the Surrounding Formations

to pyrites they all occur in the form of small crystals embedding either in calcite or in galena and sphalerite. So the order of deposition appears to be: 1st pyrite, 2nd sphalerite, 3rd galena and 4th calcite.

As being judged from the mode of occurrence and the composition mentioned above, the deposit is evidently blong to the type of replacement and filling in connection with the quartz monzonite.

Mine Workings

The mine at present altogether has three shafts, called No. 1, No. 2, and No. 3 shaft respectively (Figs. 3 and 4). No. 1 shaft, which has three compartments and measures 11-ft. 6-in. by 6-ft. 6-in. inside timber, was sunk at an angle of 51° to a vertical depth of 480-ft., serving as the main working shaft. Three levels, the 1st, 2nd, and 3rd, 6-ft. by 6-ft. in cross-section were driven at 276, 424, and 480-ft. respectively. From the 3rd level a vertical shaft of 10-ft. by 6-ft. 6-in. inside timber was sunk to a depth of 260-ft. below it, which serves the 4th and 5th levels driven at 624 and 740-ft. from surface respectively. The 5th level is the lowest and only little work has been done there on account of the low grade of the ore.





A Conspicuous Iron Hat at the Front of Lung Wang Shan



Polished Specimen of Zine-lead Ore from Shui Kou Shan Mine, Showing the Association of Sphalerite (S), Galena (G), Pyrite (P) and Calcite (C)

No. 2 shaft is vertical, having a cross section of 13-ft. 9-in. by 6-ft. 6-in. and a depth of 480-ft., thus connecting the 3rd level. It is provided with three compartments, two for hoisting and one for pump and ladder way.
No. 3 shaft is inclined which connects the old workings on the 1st level and serves as a ventilation winze.

The ore is mined by overhand method ; sometimes filling is resorted to. Timber is very little used ; in rare cases, where the back is very bad, square sets are used to avoid the danger of falling. Most of the stopes are open without support, some reaching a height of over 100 feet. Drilling is done by hand. 12 compressed air rock drills and a 60 h.p. air compressor were once put in operation,

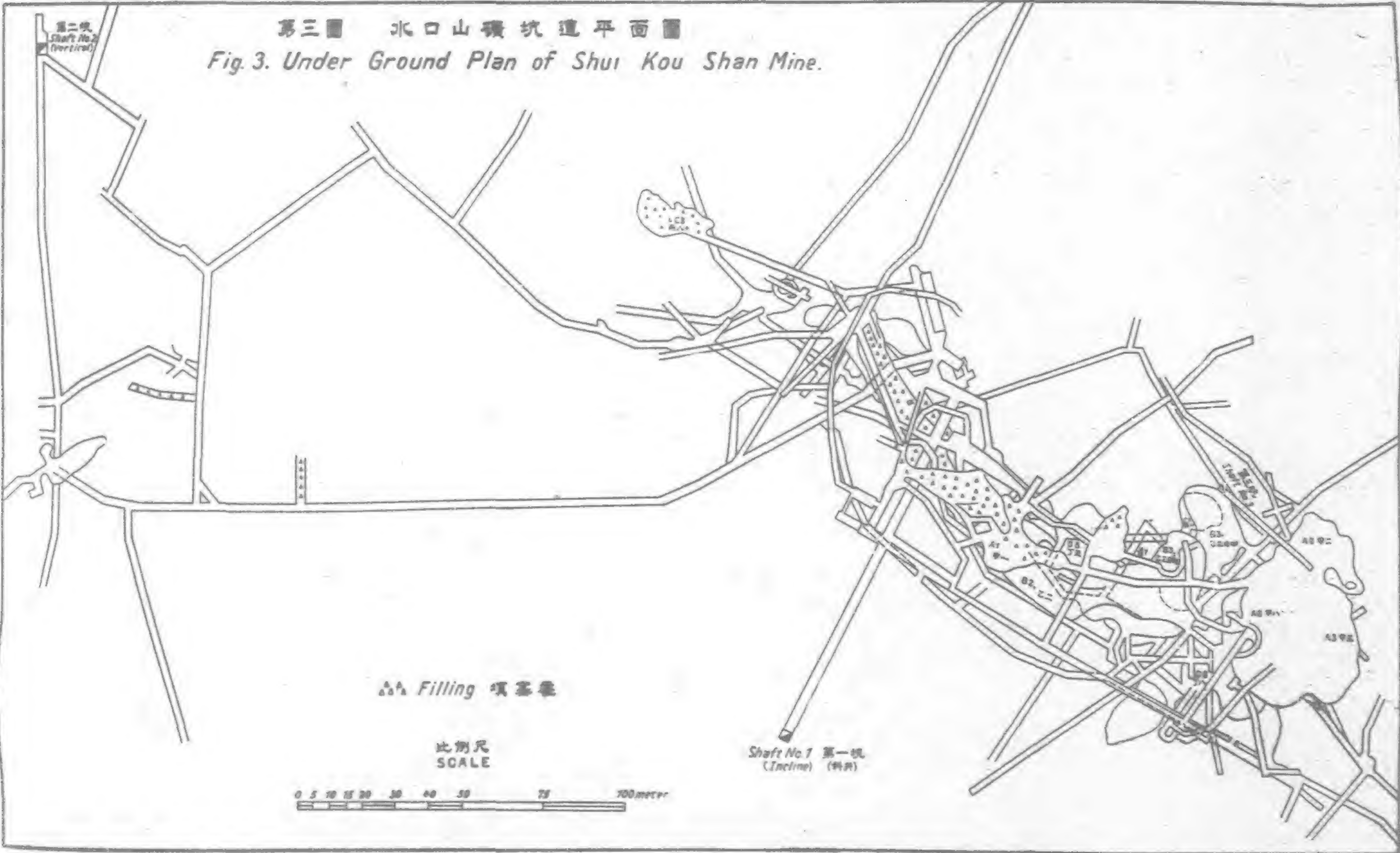
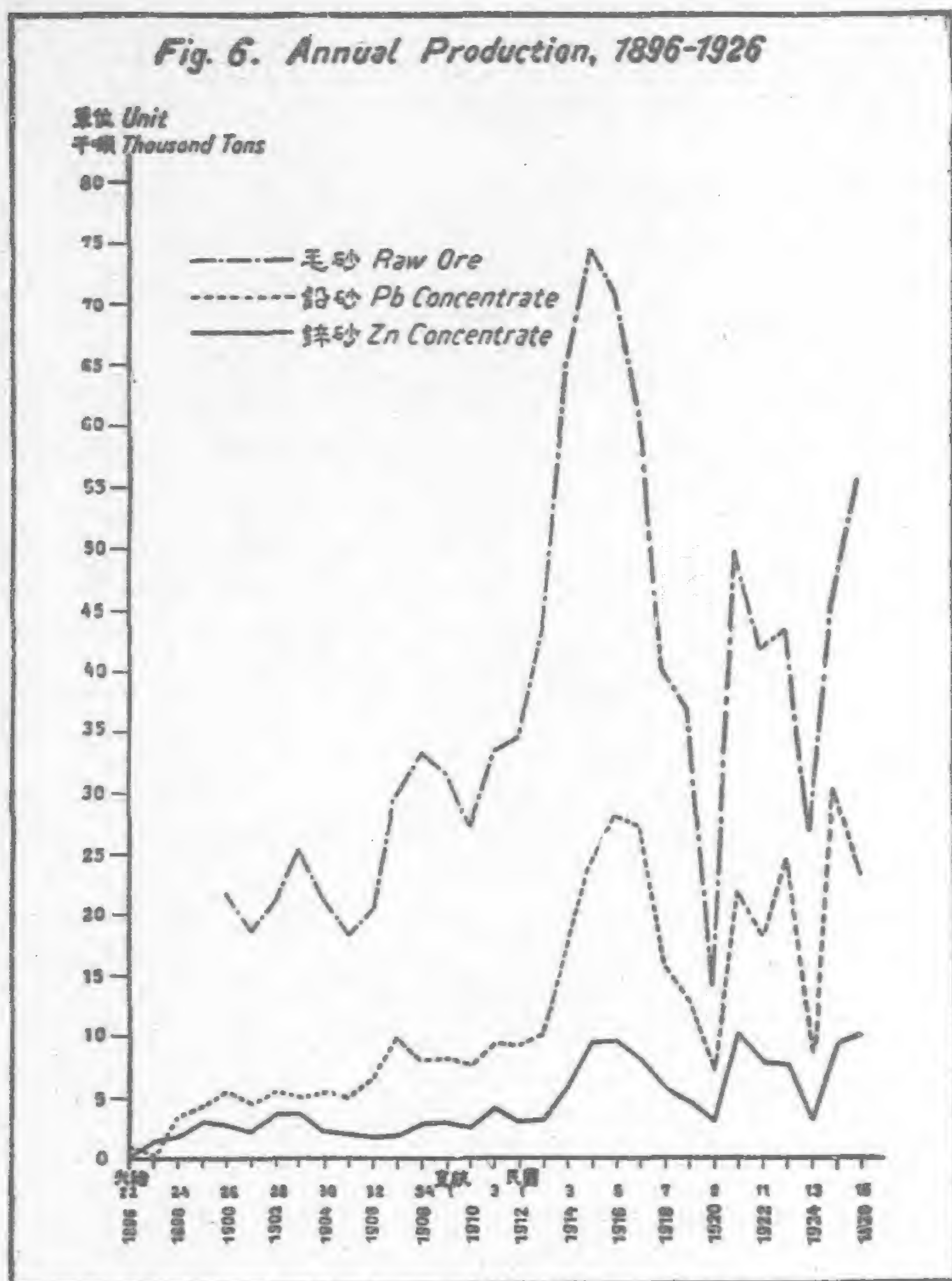


Fig. 6. Annual Production, 1896-1926



but later abandoned owing to the very poor results obtained most probably due to unskillfulness of labour. Black powder consisting of 70 per cent. sodium nitrate, 16 per cent. charcoal, and 4 per cent. sulphur is the only explosive used in the mine, which costs about \$21.00 every 100 catties. The monthly consumption averaged in 1925 about 7,200 catties or nearly 5 tons. Three drill holes, 2 cm. in diameter and 1.5-ft. in depth which is about the work done by a miner in an eight-hour shift, are fired at the same time, producing 2 to 10 piculs of raw ore. In all the levels and main drifts a 24-lb. rail truck was laid or built. The ore mined in the stopes is loaded by shovelling into cars, which are pushed to the shaft collar by men where they are hoisted individually by the hoisting engine. A 15 h.p. engine in the 3rd level hoists the ore mined from the 4th and 5th levels up through the vertical part of No. 1 shaft, and a 50 h.p. engine takes it to the surface. Ore from the 1st, 2nd and 3rd levels can be hoisted directly by the 50 h.p. engine of the surface plant. Daily production of raw ore reached a maximum of 200 tons.

Ventilation is effected by natural draft, No. 2 shaft serving as the downcast and No. 1 shaft the upcast. Underground reservoirs were constructed in the 1st, 3rd and 5th levels and water is pumped to the surface by steam pumps of different sizes. 50 and 30 h.p., double and single, 5-in. piston pumps are the machines now in use. Main drifts are lighted by electricity, and in working places or stopes a kind of native oil called "Tung-yu" is used instead.

Ore Treatment

Raw ore coming from the mine is treated into two great divisions, i.e., the Chinese floors and the foreign dressing plant. The ore is trammed from the shaft top and dumped in front of a big sorting shed into which it is carried in baskets to be cobbled and sorted by boys, and at the same time it is classified into lumps, coarses, fines and waste. The lumps are again cobbled and sorted closely, obtaining clean galena and zinc blende which are sent to storage bins for shipment. The remaining lumps and coarses are sent to the "foreign" dressing plant and the fines to the Chinese floors.

On the Chinese floors, the ore is concentrated by hand jigging in shallow baskets immersed in water, applying the same principle as in mechanical jigs. After a few pulsations the galena sinks to

the bottom of the baskets, the waste stays on top, while the zinc blende lies between. The operator skims off the waste with a scraper and repeats the pulsation, rejecting the upper skimming of waste and throwing on to a heap for second skimming of middling. The concentrated galena is then thrown out on to another heap and when sufficient has been accumulated, it is carried to storage bins for shipment. The middling or mixed product, which consists chiefly of zinc blende, is subjected to a similar treatment until the galena has been eliminated as far as possible, leaving a zinc concentrate and a second middling. The lead and zinc concentrates thus obtained amount to 50 and 400 piculs per day respectively. The second middling together with tub sludge or sediments are crushed by hammering and beating on an earth floor and are concentrated by repeated washings down a circular concave inclined plane, cement-faced and built of brick. At the lower side of the plane is placed a rectangular wooden trough, the lower end of which is connected with a water tank. The sludge is packed into a layer at the top of the plane, and the operator flicks up jets of water in rapid succession with small bamboo scoops. The waste is carried down by the washing water to the bottom of the plane or washed off through the trough to the tanks, while the heads settle higher up which can be separately collected. If the tail is not clean it is treated in a similar way. This process may be called buddling. The amount of lead concentrate obtained in this way may reach 20 piculs a day.

The "foreign" dressing plant was built in five stories, treating 200 tons of raw ore daily. It is well equipped with mechanical appliances and ore-dressing machines. The flow sheet (Fig. 12) following outlines the treatment process at the "foreign" dressing floors:

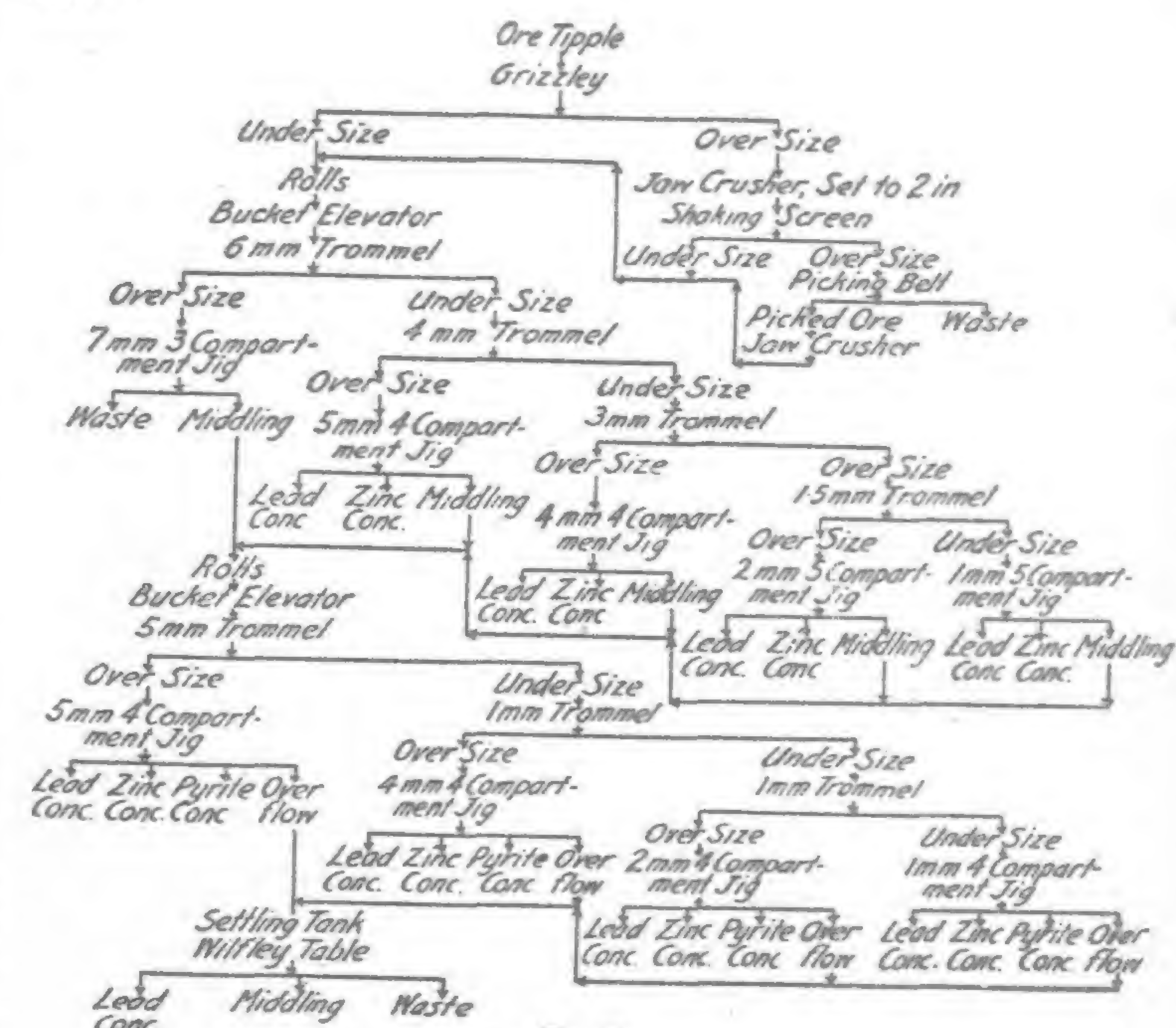


Fig. 12.

Flow Sheet of the Shui K'ou Shan New Mill.

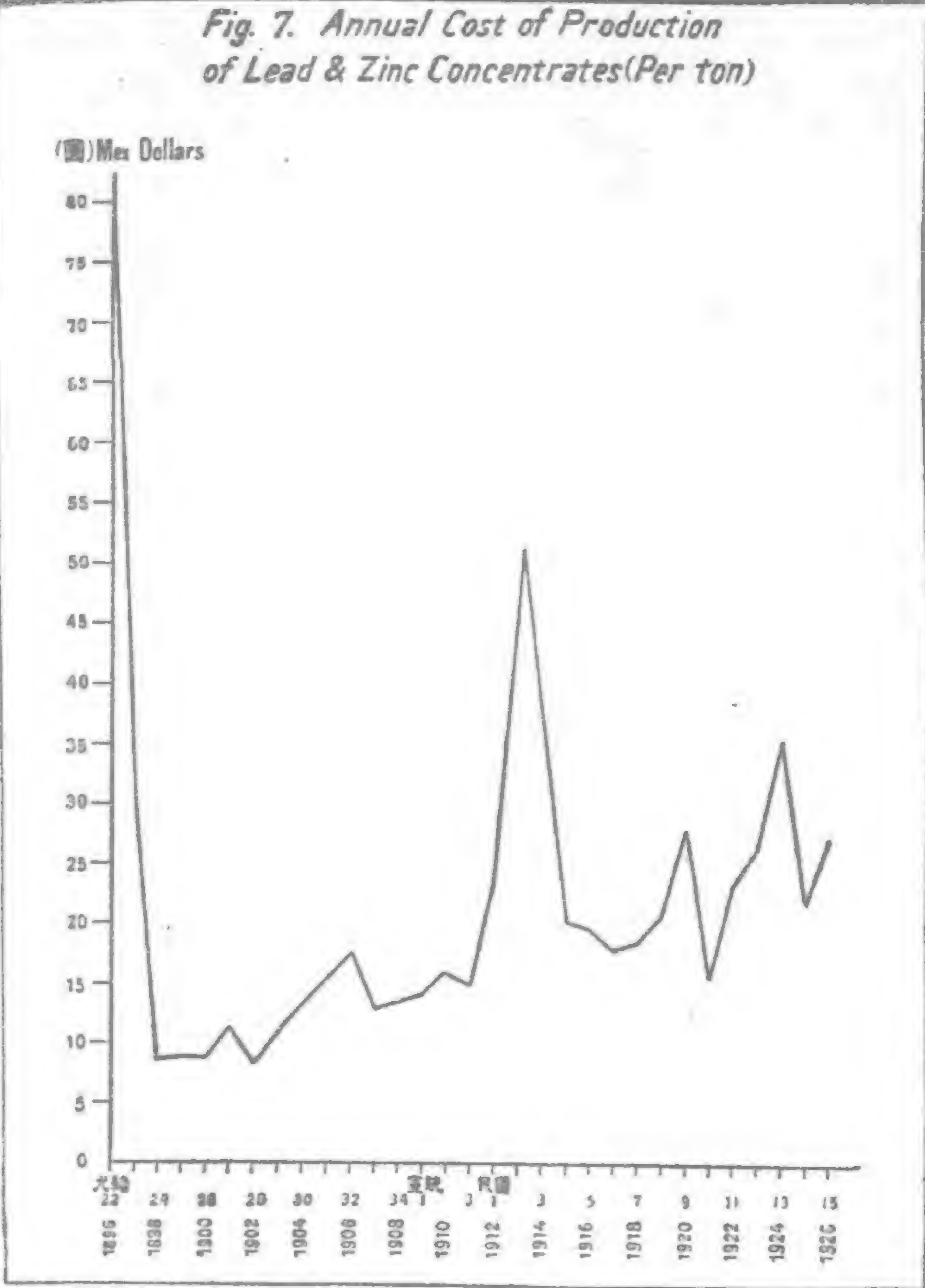
Water consumption in the mill amounts to 1,100 to 1,200 gallons per minute. The mill is provided with a 120 h.p. steam engine and three boilers, consuming 200 piculs of coal per day. As shown in the following table, it is interesting to note that almost the same degree of concentration is obtained by the Chinese hand methods as by the mechanical appliances in use.

	Lead conc.			Zinc conc.		
	Pb%	Zn%	Ag oz ton	Zn%	Pb%	Ag oz ton
Picked and sorted	.. 58-60	5-15	24-36	36-46	6-10	4-8
Hand jigging	.. 56-66	5-10	24-36	25-35	6-14	6-10
Buddling	.. 40-50	8-16	24-36	—	—	—
"Foreign" floors	.. 50-65	5-10	24-36	26-36	6-12	6-10

Mechanical Equipment

The mine is well equipped with a boiler house, a hoisting plant, an electric lighting house, an ore dressing plant, and engineering

Fig. 7. Annual Cost of Production of Lead & Zinc Concentrates(Per ton)



shops of different kinds. Steam power is used throughout. The boiler plant consists of four Babcock and Wilcox boilers and two fire-tube boilers, generating about 100 h.p. each. A bituminous coal of good quality mined in the vicinity of the mine serves as the fuel, which costs from \$6.50 to \$7.00 per ton according to the percentage of fixed carbon in the coal. The monthly consumption averaged in 1925 about 1,600 tons. The hoisting plant is equipped with a 50 h.p. hoisting engine operated by steam. A 40-lb. rail double track runs from the shaft top to the 3rd level. The hoisting rope is 1-in. in diameter and the hoisting speed averages at 120 meters per minute. The lighting house supplies the electricity chiefly for lighting purposes. No electricity is used as the source of mechanical power. The ore-dressing plant is designed to handle 200 tons of raw ore daily and is equipped with three 100 h.p. boilers, a 120 h.p. steam engine, and a complete set of mechanical ore-dressing appliances, such as grizzly, crushers, trommels, rolls, shaking screens, jigs, elevators, pumps, settling tanks, Wilfley tables, etc. The mine is also equipped with engineering shops for moulding, pattern-making, fitting, welding, and boiler-making. Castings up to 1 ton or more in weight can be turned out. Boilers, pumps, and small steam engines are efficiently made here at a cost which is one-third lower than that of the imported materials.

Transportation

In early times the ore concentrates are carried from the mine to Sung Po only by coolies at a cost of \$1.00 per ton. In 1912 a light railway was constructed between the mine and Sung Po, which is 9.5 li in length, costing \$50,000. The truck was built to 90 cm. gauge with ties laid 1.5 to 2-ft. apart. It carries a full load of 50 tons, consisting of a train of 12 to 16 cars of concentrates plus a 30 h.p. locomotive, which runs 4 to 5 trips a day, consuming 2 tons of coal. On the return trips coal and general supplies are brought back. There are no loading facilities at Sung Po. When the concentrates reach Sung Po station, they are tipped from the trucks, shovelled into baskets, and carried down the river bank by coolies to Chinese junks which are dragged by small steam boats to Changsha where usually the Hunan Provincial Lead Smelting Works takes delivery. During low waters no steam boats can pass

and small launches are the only vessels available. The transportation cost from the mine to Sung Po worked out at about \$0.50 per ton and from Sung Po to Changsha at about \$3.00 to \$3.50 per ton, making a total of from \$3.50 to \$4.00.

Management

The mine is owned by the Hunan Provincial Government, by which the mine director or superintendent is to be appointed. The general office of the mine consists of six departments, i.e., (1) mining, (2) ore-dressing, (3) mechanical engineering, (4) transportation, (5) mine accounting, and (6) general affairs. There is a head officer in each department, a chief chemist, and a chief engineer—the latter in charge of departments 1, 2, and 3 and the chemical laboratory.

The number of laborers in the mine was about 3,000 before September, 1926, after which it was suddenly and greatly increased for a period of several months to more than 6,000 owing to the activity of the then Labor Union at the mine. The Union has recently been dissolved by the Government in order to re-organize the mine and more than one-half of the men were laid off, reducing again to about 3,000. Stopping, drifting, and ore-dressing on the Chinese floors are all done by contract work, while in the "foreign" plant and other works, the day's pay system is adapted. The table below shows the number of laborers in the different works and their monthly wages paid during the year of 1925.

	No. of laborers	Monthly wages
Underground mining	1,000	\$6.00-15.00
Ore-dressing	1,000	9.00 —
Power house, shops, etc.	337	6.60-50.00
Transportation	94	7.20-10.80
Chemical laboratory	5	8.40-15.00
Office servants and guards	100	8.40-13.50
All others	300	6.00- 8.00

There are three 8-hour shifts in a day; the morning shift from 6 a.m. to 2 p.m., noon shift from 2 p.m. to 10 p.m., and night shift from 10 p.m. to 6 a.m.

Production and Operating Expense

The following table and the graphic representations (Figs. 6 and 7) show the annual production from 1896 to 1926 of the concentrates, the annual operating expenses, and the cost per ton of lead and zinc concentrates produce, the latter averaging \$21.50 per ton. For reference, the distribution of the operating expense during the year of 1925 is also shown in a separate table below.

Telephones in Chekiang

LONG-DISTANCE telephones have been installed in Chekiang province for several years and have been doing a thriving business. Up to the end of last year the line in Eastern Chekiang had been extended to Ningpo; that in the Kashing district to Fengking and Sungkiang in Kiangsu province; that in Huchow district to Wukang, and that in Hangchow district to Fuyang. Since the Kuomintang authorities took over the control of Chekiang this year the services have been extended in all directions. To-day the eastern line, starting from Siaoshan and Shaohing, has reached Chinhaï, via Ningpo; the western line has been extended from Huchow to Szean; and the southern line from Fuyang to Tunglu with the intention to extend to Yenchow. Last year a plan for establishing telephone connections between Chekiang, Kiangsu, Fukien, Anhwei and Kiangsi was formulated, but has now been shelved.

In the province there are up to date 49 long-distance telephone sub-offices and agencies, in which more than 300 operators and others are employed. This summer the Chekiang Long-distance Telephone Workers' General Union was organized with the approval of the local Kuomintang. As the telephone service is gaining popularity the business of the telegraph office has been seriously affected. The Chekiang Telegraph Administration recently requested the provincial government to order certain long-distance telephone offices to suspend transmission of commercial messages, but the request was rejected.

The Palm-Oil Industry of Sumatra

By Sydney B. Redecker, Consul, Medan, Sumatra

FOREWORD.—The increased consumption of vegetable oils throughout the world has given rise to competition in securing adequate supplies of oleaginous raw materials. Although large amounts of vegetable oils are produced in the United States, certain foreign oils possess peculiar and desirable qualities not found in our domestic oils. Both palm oil and palm-kernel oil possess such qualities.

During 1926 American business expended approximately \$18,000,000 in the importation of these two palm oils. West Africa is at present the chief source of supply of both palm and palm-kernel oil, but with the scientific cultivation of the Netherlands East Indies a new source is presented that will undoubtedly interest American manufacturers who use them in their products.

THE production of palm oil is one of the newest, most rapidly developing, and most promising of the various plantation industries of Sumatra. In fact, this country is likely to become, before long, one of the leading, if not the leading, sources of the world's supply of palm oil and especially of the highest grade of oil suitable for edible purposes. It may equal in importance West Africa, which has furnished nearly all the world production until the present time.

It is estimated that within the next seven or eight years, when those extensive areas already planted with oil palms attain maturity, the production of Sumatra palm oil will be more than eight times greater than at present and will total 80,000 tons per year, a production considerably in excess of the amount of estate rubber (at present the most important product) produced in Sumatra in 1925.

Moreover, it is estimated that in about 10 years' time the palm-oil production of this island will have increased to approximately 100,000 tons, because the additional areas now being prepared for planting with oil palms will then come into full bearing. Then it is believed that the production of oil in Sumatra will rival that of West Africa, the only other important producing region so far as volume is concerned. The Sumatra product, owing to the scientific methods of cultivation and preparation employed, is far superior to and commands a higher price than the African oil.

Origin of Sumatra Oil-palm Trees

The oil-palm tree, the fruits of which yield the commercial article known as palm oil, is not indigenous to Sumatra or, in fact, to any part of Netherlands India, but is native to

Africa and is identical with the palm (*Elaeis guineensis* Jacq., var. *dura*) of that country, whence it was brought originally for planting in Sumatra. Considerable scientific selection work, however, has been done with the trees now growing in Sumatra, so that it is quite likely that in general the Sumatra trees are of a much finer strain and produce a larger quantity and better grade of oil than do those growing in their original habitat of Africa. These selection experiments are being carried steadily forward by scientific men

connected with the Sumatra industry, so that as time goes on the newer trees will undoubtedly possess even greater distinctive characteristics of uniformity and type, which will differentiate them increasingly from the original African trees.

The Sumatra palm-oil industry is of comparatively very recent development. Apparently the first thought given to establishing an industry for producing palm oil in this country was in 1910. At that time various experiments were made with seeds brought from Africa, and the first plantings were made in Sumatra East Coast in 1911. Some Belgian and French planters, especially the Hallet group, now represented in Sumatra by the large French-Belgian plantation company known as the "Société Financière des Caoutchoucs," which was deeply interested in palm-oil production and other cultivations in West Africa, are to be credited as being the pioneers in the development of the Sumatra industry, and it was owing to the success of their investigations and efforts that other large plantation groups in Sumatra subsequently became actively interested in oil-palm cultivation. The areas planted with oil palms in Sumatra prior to the outbreak of the war amounted to only about 6,500 acres; and the amount of planted area remained nearly the same during the war, the general uncertainties



Oil-palm in Full Bearing



Avenue of Palms in the Botanical Gardens

of the times checking further development of the industry until about 1917, when a new period of much greater expansion began.

Production Increase Since 1919

The first palm-oil production of any commercial importance in Sumatra occurred in 1919, during which year a total of only 180 tons of oil was exported. Each year since then there has been recorded a steady increase, becoming especially marked during 1925 and 1926. The extent of this increase can be seen from the fact that the production for 1925 amounted to 6,905 tons of oil and 1,150 tons of kernels (the kernels contain about 50 per cent. of their weight in oil), whereas during the first nine months of 1926 the production had increased to 8,819 tons of oil and 1,433 tons of kernels, an amount considerably in excess of the total production for all of 1925, and an increase of about 70 per cent. over the production for the first nine months of 1925.

The following table of exports of palm oil from Sumatra shows the remarkably rapid increase in production as recorded since 1919.

Year	Palm oil Pounds	Palm kernels Pounds	Year	Palm oil Pounds	Palm kernels Pounds
1919...	398,338	—	1923 ...	5,989,133	1,084,341
1920...	792,990	—	1924 ...	11,112,954	2,783,236
1921...	5,422,106	—	1925 ...	15,224,072	2,533,698
1922...	5,609,135	—	1926, first 9 months ...	19,441,399	3,159,462

Not only has the volume of oil production shown a rapid increase during the last few years, but a very appreciable increase has occurred in the area of land planted to oil palms in Sumatra. It is impossible to give entirely accurate figures of planted areas, as one large concern (the Handelsvereeniging "Amsterdam") declines to disclose any information as to its planted areas and its plans for future large-scale participation in the palm-oil industry. Altogether it is believed that there are approximately 98,840 acres planted with oil palms in Sumatra East Coast, of which area probably only one-fourth or one-fifth has come into production, while areas already in bearing, especially those which have been productive for only a short time, are bound to undergo a

substantial increase in productivity as the trees attain greater age.

There undoubtedly will be further important increases in planted areas, as considerable new development work is now going on in Sumatra, involving the opening of virgin territory to cultivation, the establishment of entirely new plantations, and the extension of plantations already in existence. Numerous plantation companies during the last year or two have applied for concessions for great tracts of land suitable for cultivation purposes in Sumatra East Coast, and the concern referred to above, one of the largest and most powerful plantation companies in Netherlands India, important in the local production of sugar, rubber, sisal fiber, tea, copra, and other products, recently applied to the Netherlands Indies Government for concessions upon an additional 100,000 acres of land in the Bila district of Sumatra East Coast Province, to be used in laying out estates for the cultivation of oil palms, rubber, sisal, and other tropical products for which Sumatra is becoming an increasingly important source.

The following table shows the steady increase in the planted and productive areas of oil palms in the Sumatra East Coast, not including the large oil-palm plantations of the Handelsvereeniging "Amsterdam." It is estimated that this company alone has at least 37,000 acres already planted with oil palms, so that the total planted area of Sumatra at the close of 1925 was at least 100,000 acres, of which only one-fourth or one-fifth were even in partial production.

Year	Planted area Acres	Area in produc- tion Acres	Year	Planted area Acres	Area in produc- tion Acres
1918 ...	10,851	3,749	1922 ...	39,589	8,070
1919 ...	12,659	7,198	1923 ...	38,041	10,215
1920 ...	22,432	7,386	1924 ...	47,787	11,196
1921 ...	20,003	8,003	1925 ...	61,123	17,013

Estimated Future Production

It is conservatively estimated that, based upon present areas planted with oil palms in Sumatra East Coast, of which statistical information is available, the production of palm oil in Sumatra will increase by approximately 5,000 tons during each of the next five years until 1931, when a total production of about 32,000 tons should be attained. Thereafter, however, it is expected that the rate of increase will be even more rapid, so that by 1934, when the entire 100,000 acres now planted with oil palms have come into full production, the total annual production should attain 80,000 tons.

The following statement, compiled by the chamber of commerce in Medan, shows the total annual production of Sumatra palm oil expected during each year from 1926 to 1931, inclusive:

	Tons		Tons
1926...	10,000	1929...	22,000
1927...	12,000	1930...	27,000
1928...	17,000	1931...	32,000

The estimated production in the foregoing statement given for 1926 probably is much too conservative, as during the first three quarters of 1926 more than 8,800 tons of oil were exported, not taking into consideration an additional 1,433 tons of kernels, which should yield about 50 per cent. of their weight in oil.

The first production of oil from palm trees is secured in the fifth year after planting, and during this first producing year an average of 285 pounds of oil is secured per acre, planted with about 60 trees in a triangular arrangement at distances of about 27 by 27 feet. After the fifth year, however, the productivity of the trees rapidly increases until the eighth year, when a maximum productivity of about 1,800 pounds per acre is reached. It was at first thought possible to increase the productivity in Sumatra to 2,240 pounds per acre, or even higher, but actual experience

shows this figure to be too high, as some areas yield only about 1,330 pounds per acre from trees of 8 years or older. It is believed, however, that, taking into consideration both high and low yielding areas, 1,760 pounds is a good average productivity per acre for trees 8 years old or older.

The average expected productivity per acre of oil-palm trees in Sumatra East Coast from the fifth year, when the first yield is secured, until the eighth year, when the trees attain full maturity, is as follows: 5 years old, 275 pounds; 6 to 7 years, 700 pounds; 7 to 8 years, 1,330 pounds; 8 years and older, 1,764 pounds.

The purpose of the experiments, which are being conducted by individual companies and by the experimental station of the planters' association in Sumatra East Coast, representing the entire plantation industry of this district, is to develop a type of tree which will remain true to type and yield the maximum quantity of oil. It is quite likely that the new areas recently planted or to be planted in the future with specially selected trees will yield a higher productivity than the maximum heretofore indicated.

Concentration in Sumatra East Coast

The entire palm-oil industry of Sumatra and, in fact, of all of Netherlands India (which term includes all of the islands of the Netherlands East Indies archipelago, including the highly developed and populous island of Java), is practically concentrated in one district of Sumatra, the Province of Sumatra East Coast. Areas have also been planted with oil palms in Java and in South Sumatra (chiefly the Lampong Province, in the southernmost part of the island), but these are small and of little importance compared with the extensive areas laid out in the Sumatra East Coast.

It is also reported that about 9,800 acres were planted with oil palms in British Malaya (across the Straits of Malacca from Sumatra) in the early part of 1925, the success of the Sumatra plantations apparently having encouraged plantation companies in Malaya to undertake the oil-palm cultivation. The only other important producing area of palm oil in the world is West Africa, where, of course, the industry has been established many years and from which region most of the present production is secured.

The entire Sumatra East Coast is new country in the economic sense, as its development has occurred within the last one or two decades, and during this relatively short period nearly all of its already important and rapidly expanding plantation industries were established. During the last 10 years especially, the development of the district has been very rapid, with some entirely new and promising industries, such as sisal fiber and palm oil, established on a producing basis. Altogether, there are several hundred European plantations in this district producing tobacco, rubber, tea, palm oil, sisal, copra, gambier, etc., all of which combined have a total planted area of about 750,000 acres, representing an estimated capital investment of approximately 500,000,000 florins, or \$200,000,000.

The Sumatra East Coast offers advantages to be found in few parts of the world for the establishment of plantations for producing tropical products, such as palm oil, rubber, wrapper tobacco, fibers, etc. Among these advantages may be cited the following:

The availability of large tracts of virgin land well suited to cultivation purposes.

Extremely favorable climate, both for Europeans, and for the needs of cultivation.

Extraordinary fertility of the soil, producing a luxuriant growth of vegetation.

Even and abundant distribution of rainfall and light, with no pronounced dry or wet seasons, thus favoring vigorous growth uninterruptedly throughout the entire year.

Cheapness of rental rates and possibility of securing long-term concessions for large areas (concessions usually extending over 75 years with right of further renewal).

Cheap and abundant good labor, made possible by an almost inexhaustible supply in Java, which can be imported into Sumatra under indenture, enforced by the Government. The average daily wage of a Javanese plantation laborer is from 20 to 30 cents.

Almost entire absence of labor difficulties, owing to abundance of labor and an indentured labor system in force in Sumatra.

Presence of an already highly developed cultivation industry, consisting of several hundred scientifically operated plantations for producing rubber, tobacco, sisal, palm oil, and other tropical products, making available experienced planters, highly organized planters' associations, planters' experimental station, and other facilities.

Developed character of country, affording nearly all modern facilities, including good roads, railways, harbors, telephone and telegraph services, hospitals, etc.

Excellent shipping facilities and frequent direct sailing to the United States and Europe.

Stable government.

"Open-door" policy of Netherlands Indies Government, which is favorable to participation of foreign capital on an equal footing with national capital.

Styles of Packing

Another phase of the oil industry in Sumatra which offered considerable difficulty was the packing of the product for shipment. Different styles of packing were tried, including collapsible steel drums, second-hand oak barrels, new barrels, and shipments in bulk in the large tanks of the ocean steamships. Until 1924 most of the plantations used European barrels made of wood, and a great number of second-hand barrels were used, as it was thought that these might prove more economical than new barrels. A container was desired that would be cheap and yet so made as to reduce leakage to the minimum. The European barrels, however, proved unsatisfactory, and leakage up to 20 per cent. was very common; in fact, the leakage was so great that the steamship companies objected to transporting oil contained in such barrels.

In 1924, however, owing to the assistance of the American consulate in Medan, palm-oil producers in Sumatra were put in contact with manufacturers of barrels in the United States. Barrels of fir wood were finally secured, which have proven most satisfactory and apparently have eliminated all packing difficulties, especially so far as leakage is concerned. There is now seldom any leakage beyond 1 or 2 per cent. of the contents, an entirely negligible quantity.

It is estimated that there is a demand each month for between 8,000 and 10,000 wooden barrels, of 50 American gallons capacity, in which to ship palm oil from Sumatra East Coast. Nearly all of these are now supplied by an American barrel concern. The success of the company in securing this business was largely due to the trade-promotion activities of the Medan consulate in drawing attention to the opportunities for trade. This was done by means of reports and letters and subsequently by assisting in the establishment of suitable relations with importers of barrels and consumers in Sumatra. Although shipments of oil in bulk are now made and probably will be made on an increasingly large scale in the future, the demand for palm-oil barrels in this district should nevertheless increase, as there will always be a certain quantity of oil shipped in wooden containers, especially oil intended for edible use. Moreover, barrels will probably always be used by the smaller producers in Sumatra, for although the aggregate production is large, and subject to steady increase in the future, the individual production will probably never be sufficiently large to justify shipping in bulk.

Bulk Shipments

The first shipments of palm oil from Sumatra in bulk were made in the latter half of 1925. Prior to that time all shipments were made in containers, chiefly wooden barrels. As there were no facilities in Sumatra for expeditiously handling these large-bulk shipments, amounting to from 500 to 1,000 tons each, some difficulty was encountered with the first one of two bulk shipments, chiefly with the transportation of the oil to the harbor and with the loading of it quickly into the ocean vessel. Now that greater experience has been secured by the larger producers and special facilities for expeditiously handling the oil have been established, it is certain that there will be a steadily increasing quantity of oil shipped in bulk.

Special tank cars have been installed on the local railway and special tank barges brought into service for the palm-oil estates situated near rivers or the seacoast, in order to transport the oil to the ocean harbor of Belawan-Deli (port of Medan and largest port of Sumatra). Here it is pumped either into special storage tanks at the harbor or directly into the deep tanks of the ocean steamships, which proceed direct to the United States or to Europe. These vessels have been equipped with special tanks for transporting the oil and with special heating apparatus in order to prevent the oil from hardening when coming into contact with the colder atmosphere of the Temperate Zone. There are four or five freight lines maintaining regular services from Sumatra to United States ports (Boston, New York, Philadelphia, etc.), and nearly all of the vessels are or probably will be equipped with facilities for transporting palm oil in bulk.

Uses of Palm Oil

There is a steadily increasing demand for palm oil for a variety of uses. Of the total world production, estimated at approximately 300,000 tons (chiefly from West Africa), about one-half of it is used by the African natives as a fat supply and does not therefore come

upon the general market, while the remaining one-half is shipped to western countries. Probably the greatest use for palm oil heretofore has been in the manufacture of soaps and candles (especially soaps), for which the poorer grades of oil, with a high percentage of fatty acid, are suitable. Considerable quantities, amounting to thousands of tons, are also used for coating thin sheet iron before it is tinned, so as to prevent oxidization, and for this purpose oil of a low fatty acid content is required. In some producing districts in West Africa, far removed from traffic, palm oil may also become important as a fuel for motors. As a matter of fact, some motor boats plying on the Congo River now burn palm oil instead of gasoline as a fuel. In France the use of palm oil has been suggested for use on warships in case of great need.

The greatest promise for the increased use of palm oil, however, is in the manufacture of edible fats, and it is expected that in this industry palm oil will play its greatest and an ever-increasing important part, as the need for vegetable fats to substitute for animal fats increases. The high percentage of fatty acid in African palm oil, resulting from the crude methods employed by the natives in recovering the oil, has long retarded the use of African palm oil in the manufacture of margarine or artificial butter.

However, now that oil with a low acid content of 3 per cent. and even 2 per cent. can be readily produced in Sumatra, the objection to its use for edible purposes has been effectively overcome, and henceforth it can be expected that ever-increasing quantities of high-grade Sumatra palm oil will be absorbed by the margarine industry in Europe and in the United States. According to scientists who have studied the subject, palm oil of all vegetable fats appears to be best suited for the manufacture of artificial edible fat, and no other fat possesses a like suppleness. Moreover, palm oil seems to possess a highly important property for the margarine industry, in that palm-oil margarine shows little tendency to become rancid. It is generally believed that with the greater need for artificial vegetable fats, owing to the inadequate supply and prohibitive cost of animal fats, there will be a steadily increasing demand for such products as margarine, and that high-grade palm oil will be more and more important as an ingredient in the manufacture of these products.

Distribution of Sumatra Oil

Sumatra palm oil is marketed in a variety of ways, depending upon the volume of production of the producing company, control of estates, market in which sold, etc. The five or six largest producers usually market their production independently of local export firms in Sumatra, either through their own head offices in Europe or through agents in the countries where the sales are made. There is, however, a considerable quantity of oil disposed of by trading firms in Sumatra, which either purchase upon their own account direct from the producing estates or, like many of the trading firms in Sumatra, act as general agents and secretaries for groups of estates which are really under their control and whose produce they dispose of under the most favorable conditions possible, securing a certain fee or commission for their services. Agency or export firms in Sumatra are constantly receiving orders by cable from importers in the United States and Europe, and the oil is sold to those making the best offer.

A very marked change in the distribution of the exports of Sumatra palm oil occurred in 1925, the first really large shipments going to the United States in that year. During the first years of the Sumatra industry and until 1922, the Netherlands was by far the leading importing country, taking about four-fifths of the total Sumatra production. After 1922 England became the leading purchaser, taking more than one-half the total production in 1924, while a much smaller quantity was shipped to the Netherlands. In 1925, however, the most significant change in the trade occurred, the United States taking 2,343 tons of oil, or more than one-third of the total production for that year compared with the negligible quantities of 165 tons in 1924 and 90 tons in 1923. The first nine months of 1926 have shown a still larger volume of direct exports to the United States, with 3,784 tons, or 43 per cent. of the total Sumatra production. Great Britain has lost considerable ground in the trade, taking only 1,393 tons in 1925 and about 1,426 tons in the first nine months of 1926, while Germany's imports have increased, that country taking 1,356 tons of oil in 1925 and 768 tons in the first nine months of 1926.

The following table of the geographical distribution of the exports of Sumatra palm oil during 1923, 1924, 1925, and the first

nine months of 1926 shows clearly the significant changes in the direction of the Sumatra trade and the increasing importance of the United States as a direct importer.

EXPORTS OF PALM OIL FROM SUMATRA
[In tons of 2,000 pounds]

Destination	1923	1924	1925	1926 January to September
Netherlands	1,489	1,233	1,627	2,707
England	1,282	3,182	1,536	1,572
Belgium	47	—	—	42
Germany... ..	2	733	1,495	847
United States	99	182	2,583	4,171
Siam	75	—	—	—
Australia... ..	—	—	—	187
Japan	—	123	261	86
France	—	—	—	40
Denmark	—	—	—	67
Other countries	—	101	111	1
Total	2,994	5,556	7,613	9,720

Six Forward Steps in the Excavating Field

THE advance in any industry is marked by the improvements in the machinery used by that industry. In furnishing material for preparation of a general survey of the achievements made during 1927 in the excavating field, one company (Bucyrus Company of South Milwaukee, Wisconsin) outlines the following marked advances:

1-YARD DIESEL SHOVEL.—A machine combining extraordinary outputs with extremely low operating cost, brought about partly by remarkable fuel economy, was introduced in the 1-yard D-2 Diesel shovel. The motive power of this machine is four cycle oil engine operating at the low speed of 400 R. P. M.

1½-YARD DIESEL SHOVEL.—Following this came the announcement of a 1½-yard E-2 Diesel shovel equipped with a four cycle oil engine running at the speed of 350 R. P. M. This shovel is intermediate between the 1-yard shovel and the 2-yard, 50-B size so widely used in quarries and railroad.

NEW 2-YARD ELECTRIC SHOVEL.—A Ward-Leonard direct-current field control machine of the 2-yard size (known as the 50-B) equipped throughout with separately excited shunt-wound motors was introduced. This type of electric drive does away with the constant use of brakes and clutches yet enables the dipper to drop rapidly to the pit. The electric regenerative braking at the bottom is smooth, positive and accurate.

DIESEL ELECTRIC HYDRAULIC DREDGE.—For the dredging industry a thirty inch Diesel Electric Hydraulic Dredge was built. This machine, the first of its kind afloat, is equipped with four 1,150 horse power oil engines which drive generators supplying current for the many motors running the various units of machinery.

12-YARD STRIPPING SHOVEL.—For the coal and mining field came the announcement of a 12-yard stripping shovel. This machine is remarkable because of the fact that, although of 12-cubic yard dipper capacity (one half again as large as an 8-yard dipper) it has the same speed in thrust, hoist, swing and return as the fastest 8-yard machine built. This means an actual increase of 50 per cent. in machine output and makes it possible to open coal fields hitherto impractical to mine. To develop this speed with the greatly increased load, a number of revolutionary, new and interesting features have been introduced. Two independent hoists are provided—one on each side of the dipper—the equivalent of a bail extending up over the boom point and down to the main drum. Two complete swing machinery units enable the machine to swing rapidly but with ease. The boom is supported by cables at the shipper shaft as well as at the point; this takes out the twisting strains where they are put in by the dipper handle. The 12-yard dipper, without a rivet in it, is made of two steel castings.

CONSOLIDATION OF BUCYRUS AND ERIE FACILITIES.—During the year announcement has been made of the merger of Bucyrus Company and Erie Steam Shovel Company. This merging of the largest and oldest manufacturer of excavating machinery in the world with the manufacturer who has produced more small revolving shovels than any other holds great promise for the industry. Financial stability, world-wide service, increased shop facilities and a complete line of equipment including all sizes from smallest to largest, as well as all types and powers, will enable this new corporation to be of the greatest help to the excavating machinery user.

Seeking a Livelihood in Manchuria

SHANTUNG Province was restored to Chinese sovereignty by the Washington Conference in order that the Chinese population there might live happily under their own government and flag. But ever since then emigration of Chinese from Shantung has been increasing due to terrible conditions prevailing, caused largely by ravages or war, increase of banditry, whole villages being wiped out by robber bands; intolerable taxation and bad government generally, to which widespread famine has added its miseries. As a consequence, the population tends to emigrate to Manchuria where they may settle on vast areas of undeveloped, fertile land, and where no war or serious disorder exists due largely to the presence of Japanese interests, the Japanese Government having declared that peace must prevail in Manchuria. For some years past the annual number of Chinese escaping from war-torn China into Manchuria was from 300,000 to 400,000, but last year, when conditions in China Proper became worse than ever, it rose to about a million, and Chinese authorities in Manchuria estimate that during 1928 the total will rise to from two to four millions.

Reclamation in Manchuria

Waste land reclamation in Manchuria began in the last days of the Manchu régime. In Fengtien province there is little waste land left, but in Kirin and Heilungkiang large cultivable tracts remain undeveloped. Such land is generally freely granted to applicants for reclamation, but very few genuine farmers apply, applicants usually being wealthy people or those in high position. When they are granted an area they either sell the land in small lots at a profit or recruit tenant farmers. In the latter case the land owner erects buildings, sinks wells, installs mills for grinding cereals and buys farm animals and implements for his tenants, who are generally required to get guarantors. For the first three years

the landowners collect no rent but lend food, seeds or money when required. The term of repayment is three years. If the borrower repays within one year he is not charged any interest, but from the second year he is required to pay 20 per cent. per annum interest. Any unlucky tenant who reaps no crop at all in the first year will be granted another loan in the second year.

The contract between land owner and tenant, either verbal or written, is usually faithfully fulfilled by both parties. Waste land is either "forest land" or "grass land." Reclamation of "forest land" requires more labor as trees have to be felled and roots removed. On "grass land" the grass grows to a height of two or three *chih*, and the roots are easily removed by ploughing, whereafter the land

is ready for cultivation. Most of the waste land in Manchuria is "grass land," and reclamation is done by manual labor or animal power. To prepare one *mow* of land takes a laborer three days but four *mow* may be prepared in one day by employing a large plough drawn by eight animals, while about twenty *mow* a day can be done by a foreign ploughing machine, ploughing to a depth of one *chih* or more. Tilling is done before the Chinese Ching Ming Festival between March and April and sowing after the festival. In the first year the land is solely devoted to the cultivation of broom corn millet of the red seed variety and the cereal and the wild

grass grow together. In a normal year one *mow* yields three to four *tau* (each weighing 32-33 catties) of the cereal. In the second year there is less wild grass and the land may be planted with barley or *kaoliang*. The land gets "ripe" in the third or fourth year when no more wild grass appears and common millet and beans can be grown.

After three years the tenant has to pay rent in kind, if he desires to continue cultivation. The rates are determined by the quality
(Continued on page 92.)



Immigrants on Board a Steamer Entering the Harbor of Dairen, the Port of Japanese Leased Territory



Immigrants Just After Landing



Resting on a Dairen Street

Manchurian Fair Has Jitney Rides

FAIRS from immemorial times have been employed in far eastern countries to bring trader and customer together, writes Consul George C. Hanson from Harbin, India, in Commerce Reports. The great distances to be covered by the merchant with his slow caravans, the sparsity of populations apart from the cities, and their diversity oftentimes in language, religion, social and trade customs, made the fair a necessity of commerce, especially among barbaric peoples.

Fairs in all countries have their picturesque features, but few are more rudely so, or bring together a meeting of stranger racial mixtures, than the annual fair held in Barga. Barga is a special territory of northwestern Manchuria, combining elements of both Manchuria and Mongolia. It straddles the zone of the Chinese Eastern Railway, a Russian-Chinese institution, and runs north to the borders of Siberia. Consequently, it is literally the meeting place of East and West. Russian, Chinese, Mongolians, Manchus, and others make up the population, but Mongols are much the more numerous.

Derives Name from Temple

The Barga fair is held in the neighborhood of an ancient Buddhist temple known as Gandjur-Sume, about 100 miles from the city of Hailar, and, for that reason, is known from Peking to Siberia as the Gandjur fair. It usually opens around September 1, and lasts for five or six days, although Chinese firms, coming from afar to trade with the nomadic Mongols, usually stay much longer, inasmuch as they have a good opportunity for driving bargains around the temple, to which Mongols come from all regions to pray.

Until the construction of the Chinese Eastern Railway, about a quarter of a century ago, Barga was a land of no trade routes, and the wants of the inhabitants were almost wholly supplied from their own flocks and herds. About a hundred years ago, however, Chinese merchants from Peking and Dalainor gradually began to penetrate the region, sending their caravans northward as far as Hailar. Out of this enterprise the Gandjur fair gradually developed. It came to be the great annual commercial event of the territory. Russians and Japanese, even Koreans and other people not too remote, take to the fair their manufac-



Waiting for Passengers

tured goods to exchange for the pastoral wealth of the Mongols.

Railroad Hurt Fair

In 1906 there were driven to the fair 30,000 head of cattle, 30,000 horses, several thousand sheep, and 30,000 Mongolian carts, while the money that changed hands amounted to well over \$1,000,000. In recent years, since the opening up of the country to a certain extent by the railway, the fair, while still an annual event of much renown, has lost some of its commercial importance.

In 1925 there were only about 6,000 visitors—still a considerable number when the sparseness of the population and the difficulties of transportation are considered. About 5,000 of them were from the 18 hoshuns of Barga, and of the remainder 300 were Russian, and 600 Chinese merchants. The Halka Mongols would not come, principally for the reason that high taxes (5 per cent of the value of their goods) were established for driving across the Siberian frontier, and many of the Barga Mongols were absent because they had

plenty of money after the sale of their wool at high prices. In 1924 one pood (36 pounds) of wool brought 6 silver dollars (approximately \$3) in the market, while in 1925 it brought from 9 to 12 dollars. At the fair there were firms from Manchouli, Hailar, Tsitsikar, and Harbin buying cattle, wool, and raw products.

Four main streets comprise the fair; Russian street, for the purchase of cattle and the exchange of products; Chinese street, dealing in sundry articles; Horse street and the street of wooden articles. The

Russians brought to the fair, for sale or barter, soldiers' cloth, matches, lamps, kerosene, moleskins, sugar, pocket knives, locks, spirits, stearin candles, enamelware, earthenware plates, axes, saws, kettles, and flour. The Chinese brought millet, bean oil, rice, hanshin (the "fire water" of the old western frontier), toasted wheat flour, green brick tea, leaf tobacco, snuff, silver and coral ornaments for belts and women's head decorations, silk stuffs, Mongolian footwear, Mongolian sheaf knives with two chopsticks, silk thread, sheep-

skin coats, saddles, snuff-boxes, and metal pipes. The Mongols brought cattle (the principal item of trade at the fair), horses, horse-hides, sheep-skins and wool, and wolf and marmot skins.



Rapid Transit in the Gobi



Caravan Crossing Mongolia Desert with Products of the West

Automobiles in Evidence

By 1926 the automobile had found its way to the Gandjur fair, conveying thither Hailar and Manchouli merchants. A visiting foreigner in the role of spectator was much impressed with the reaction of a band of nomads to the appearance of an automobile in their midst. The frightened horses or oxen drawing the heavy two-wheeled carts rushed aside, throwing out cargo and drivers, and the unfortunate Mongols with difficulty reassembled their



A Motor Car Starting from Hailar for Mongolia

caravan in the wake of the vanishing "gas wagon." The fair, however, provides a rare "occasional" for the Manchurian and Manchouli chauffeurs. During its five or six days' duration, a chauffeur makes from 1,500 to 2,000 silver dollars. He has no time to stop for rest or food, but drives day and night to make up for his long winter inactivity. "Under such circumstances," the foreign observer wrote, "it is not strange that one can see automobile 'corpses' along the road to Gandjur."

Seeking a Livelihood in Manchuria

(Continued from page 90).

of the land, first class land (yielding eight or nine *tou* per *mow*) paying one *tou* and two *sheng* per *mow* per year, second class (yielding six or seven *tou*) eight *sheng*, and third class (yielding five or six *tou*) four or five *sheng*. The owner charges nothing for the farm buildings, mills, wells, etc., but the tenant is responsible for repairs. All farm houses are mud-walled, with roofs made of straw or rushes coated with mud. Mud-coating of the roofs is done once a year by the tenant.

In the past the majority of tenant farmers for reclamation were recruited from districts in the southern part of Fengtien province, like Kinhsien Fuchow, Haicheng and Kaiping. These districts were densely populated and the area of cultivable land was insufficient to feed the numbers on it, hence the migration north with families when opportunity offered. Some have now made fortunes by reclaiming land in the north, while many remain poor tenant farmers. Generally, a thrifty and industrious farmer can easily accumulate some wealth in a few years.

During recent years large numbers of farm laborers from the north of China Proper have swarmed into Manchuria, driven from their homes by civil wars or famines. Most come from Shantung province, others mainly from Chihli. They travel to Manchuria

through Dairen or Newchwang at the rate of several hundred thousands a year. For the benefit of these immigrants both the Peking-Mukden and South Manchuria Railways have reduced third class passenger fares. However, the majority are too poor to travel by rail and on arrival at Newchwang or Dairen trek overland on foot, bringing with them old people and children. In past years not a few died on the way owing to the extreme hardships, but this year the Shantung provincial guilds of Shantung residents in Manchuria, the chambers of commerce and philanthropic organizations combined to organize reception bureaus to attend to the welfare of the immigrants and established rice congee kitchens and "warm houses" at places 60 *li* apart on the way. Agents have also been appointed at destinations to provide conveniences and to give the immigrants advice regarding settlement, etc., thereby greatly facilitating the process of immigration.

Irrigation Works in Korea

THE Acting British Consul-General at Seoul reports in connection with the proposed irrigation works in Korea that the Governor-General has made a grant of Y.5,309,000 for the present fiscal year. Of this amount Y.3,800,000 will be granted to irrigation guilds and the balance to private persons engaged in this work. The number of guilds receiving this aid are sixty-three, the total area of ground is approximately 61,000 acres, and the number of new works to be started this year is fifty-two. The following provinces will obtain a share of the total grant:—South Zenra, Y.200,000; Keiki, Y.140,000; South Chusei, Y.135,000; South Heian, Y.120,000; South Keisho, Y.105,000; and South Kankyo, Y.14,000.

The Acting British Consul-General further reports that irrigation, although much encouraged by the Governor-General in the interests of agriculture as a whole, is not proving satisfactory from a financial point of view to the promoters, and that lack of money is severely curtailing development. Work is in progress at the following places:—

Name	Province	Acres
Saishin	Kokai	8,822
Onshin	South Chusei	3,920
Kanei	South Chusei	(Improvement work only)

Work is about to start at the following places:—

Name	Province	Acres
Heian	South Heian	11,027
Suiryu	Keiki	1,960
Gyujo	South Chusei	612

Work at the following places has been postponed until next year:—

Name	Province	Acres
Chuo	Kogen	980
Kinpok	Kogen	3,920
Taisho	North Heian	2,450
Oanka	North Heian	1,960
Tomanko	North Kankyo	6,126
Masan	Kokai	1,470
Kore	South Zenra	(Reclamation of beaches)

One of the most extensive of the Government's riparian works is situated along the River Rakuto, and the total cost of this work is placed at Y.17,500,000, to be spread over a period of ten years. The Rakuto River, which flows into the Chosen Channel near Fusan, in the province of South Keisho, is one of the larger rivers of Korea, being 307 miles in length. Its basin covers an area of about 9,000 square miles, while the average of the fields under cultivation is in the neighborhood of 857,745 acres. The districts which will benefit by the works of irrigation when completed have an area of 36,760 acres, while a further 12,253 acres benefit indirectly. It is also estimated that the value of the agricultural products now placed at Y.5,000,000 will be increased by Y.2,300,000, or a total of Y.7,300,000. The chief agricultural products of this province are rice and cotton.

Engineering Notes

Can Manufacturers May Consolidate.—Three can manufacturers, the Hokkai Seikan K.K., Nippon Seikan K.K., and the Toyo Seikan K.K., are now negotiating for a merger, or a close co-operation in future. The three companies have capital as follows:

Toyo Seikan	K.K. Y.3,000,000.
Hokkai Seikan	K.K. Y.1,000,000.
Nippon Seikan	K.K. Y.2,000,000.

Recently there have been two mergers of canneries devoted to the canned crab industry, the Nippon Kosen Gyogyo K.K., and the Showa Kosen Gyogyo K.K. These are what is called "floating canneries."

Adjustment of Smaller Electric Companies.—The Department of Communications reports 800 electric light and power companies operating in Japan proper, of which 300 are small companies with a capacity of less than 50 k.w.

For five years or more the business results of these small concerns have been very poor: the average rate of dividend paid being only 3.58 per cent. Charges are comparatively high in proportion. Thirty of the 300 companies are supplying light at a charge of Y.1 per 10 c.p. light: and the average of the 30 is 80 sen per 10 c.p. light. Meter rates average 20 to 30 sen per k.w.h.

In order to stave off bankruptcies mergers of these concerns are considered obligatory. Some official measures may be taken in the near future to reduce charges, and this will automatically effect the financial status of these companies.

Recent Contracts Secured by the Cement Plant Dept. of Edgar Allen & Co., Ltd.—*Oxford and Shipton Cement Limited.*—Plant for the production of 120,000 tons of Portland Cement per annum at the new factory which is being erected in Oxfordshire.

The machinery includes two Rotary Kilns 200 feet long with complete crushing, grinding and packing equipment.

The plant will be of the latest type, and will embody several special features for which Edgar Allen & Co. Ltd., hold the British rights. The raw materials consisting of limestone and shale, often in a sticky condition will be delivered direct from the Steam Navy in the quarry to a giant "ERGO" hammer Crusher where they will be reduced in one operation to a size of one inch.

There will be four grinding mills, two for raw materials and two for cement. They will be the well known 36 feet "STAG" Combination mills with the patent "CENTRA" drive.

The rotary kilns will be fitted for the Stehmann process of firing and the finished cement will be packed in both paper and jute sacks by the well known Bates Valve Bag Packing Machines.

Electric Motors totalling about four thousand horse-power will be installed for driving the machinery.

Southern Portland Cement Limited.—This Company which has a nominal capital of £1,000,000 and which is about to equip a Portland Cement Factory at Berrima, New South Wales has placed the order for their new plant with Messrs. Edgar Allen & Co. Ltd., Sheffield, through their agents Messrs. Noyes Bros. (Sydney) Ltd. The capacity of the plant will be 120,000 tons per annum of high grade Portland and quick hardening cement.

Special features of the equipment will be 180 feet by 10 feet diameter rotary kilns supported on two tyres only together with 40 feet by 7 feet "STAG" combination Mills with patent "Centra" drive.

The following are additional contracts which Messrs. Edgar Allen & Co. Ltd., have in hand.

50,000 ton Portland Cement Plant for the Milburn Lime & Cement Co. Ltd., New Zealand.

35,000 ton Portland Cement Plant for the Barnstone Cement Co. Ltd., near Nottingham.

35,000 ton Portland Cement Plant for Mr. W. E. Benton, Chinnor, Oxfordshire.

Rotary Cement Kiln and auxilliary plant for the Sundon Works of the Associated Portland Cement Manufacturers, Ltd.

Motor Roads in Kwangsi.—"The new motor road connecting the cities of Liuchow and Kingyuan, north-western Kwangsi, which was commenced a little over a year ago, has now been completed and cars and trucks have commenced to make daily runs. The journey which formerly required three days overland, or a week by boat, can now be made in three hours," writes a correspondent of the *North-China Daily News*. He adds:

"Liuchow and Nanning, the capital of Kwangsi, are also now connected by motor road and an irregular schedule is carried out. Motors leave Liuchow in the morning and connect with motors coming from Nanning at Tsinkiang on the banks of the Red River. Passengers are ferried across the river and each bus returns to its place of starting; this saves the necessity of building a bridge. Time taken is one day.

"Another line is also under construction and is being pressed rapidly forward. It is now nearing the city of Huaiyuan. Already, it is stated, that the motor trucks have been most useful in transferring opium from Kingyuan to Liuchow.

"The work of road making is being done by pressed labor, each section of the road being apportioned to the villagers living in the locality. The prices charged for fares and freight on the lines that are already in operation are so high that it is quite impossible for the poorer people to patronize them."

Another correspondent writing from Wuchow says: "Seldom has the country been so peaceful, and robberies are few. An endless stream of steam launches plough up and down the larger rivers, and native craft in countless numbers ply the inland waterways, all heavily laden with passengers and cargo. City improvements appear on every hand. Motor roads are being built, some of which are in operation, and Ford motors transfer passengers in a few hours over distances which a year ago it took a week to cover. Markets swarm with merchants and tradesmen bartering their wares, and the whole country is bustling with life."

Commercial Aviation Planned.—Under the auspices of the leading members of the Aviation Corps of the Kuomintang Army commercial aviation is being planned in Shanghai by organizing the Aviation Association. This association which has 100 members, has been registered with the Military Commission of the Nanking Nationalist Government. Its headquarters is located in Nanking, with branches in Shanghai, Hangchow, Canton, Hankow, Kiukiang, Foochow and Swatow. Originally it was planned first to establish two air routes, one from Shanghai to Canton via Foochow and Swatow, and the other from Shanghai to Hankow via Nanking and Kiukiang. But the war between Nanking and Hankow has compelled the promoters to alter their original plan. It is now decided first to start the Shanghai-Hangchow and Shanghai-Nanking services with the only available aeroplane in Shanghai. The airdrome in Hangchow is under construction and is expected to be completed by November 20. The Shanghai-Hangchow service will start from November 21. The machine will first go to Hangchow and on its return to Shanghai will continue its flight to Nanking. It is estimated that it will take three hours for the machine to fly to Hangchow and back to Shanghai. The present machine carries 10 passengers.

It is planned to raise \$200,000 by public subscription, divided into 2,000 shares of \$100 each, to finance the Association's original project for the Shanghai-Canton and Shanghai-Hankow service. Of this sum \$150,000 will be used for purchasing four machines, \$20,000 for building 13 airdromes, 3 each in Shanghai and Nanking, 2 in Canton and 1 each in Wuchang, Hankow, Kiukiang, Anking and Swatow, and \$30,000 for other inaugural expenses and running capital. An order for four machines has already been placed with a German firm, for delivery in 60 days. It is estimated that by taking 30 trips on the two lines each month the total monthly expenses would amount to \$11,140, while the receipts from passenger fares and freight charges would reach \$36,000, netting a monthly profit of \$24,860. More than one-half of the necessary capital has already been subscribed, but the present war between Nanking and Hankow is preventing the immediate execution of the plan.

Spinning Machinery for Idzumo Seishoku K. K.—The 20,000 spindles purchased from Brooks, Doxie & Company of England by the Idzumo Seishoku K. K. through Mitsui Bussan K. K. are now being installed. Mitsui Bussan took over this agency from the late Suzuki & Company. The Idzumo Seishoku is planning to increase capital by Y.2,000,000 and will issue preferred shares to this amount, bringing total capital up to Y.5,000,000. Part of the fund will be used for the purchase of 525 automatic loom units from the Toyoda Loom Company.

Electric Development in Toyama Prefecture.—A report compiled by Toyama Prefecture shows that electric power amounting to 116,000 kw. is generated by the (24) largest electric light and power companies in the prefecture. In 1917 there were seven electric light and power companies located there with a total generating capacity of 2,903 kw. the total capital of the companies being Y.2,980,000. The twenty-four companies now located in Toyama have a combined capital of Y.201,523,400. Although such a large amount of power is generated within the prefecture, electric power rates are still high, as most of the power is sent out to other districts by the large power wholesalers.

Akagawa Suiryoku Denki K. K.—A company known as the Akagawa Suiryoku Denki K. K. (Akagawa Hydro-electric Power Company, Ltd.) has recently been formed with a capital of \$3,000,000 to develop 7,600 kw. on the Aka River in Fukushima Prefecture. The company is in reality another of the companies which are so often formed by power companies in Japan to carry out construction work, in order to take advantage of the provisions of the commercial code which show a dividend to five per cent. to paid during the period of construction. The promoting company be therefore has the advantage of showing this five per cent. in its income statement. The Niigata Suiryoku Denki will take over this new company as soon as construction is completed.

Kita Karafuto Sekiyu.—(North Saghalien Oil Company, Ltd.) The Kita Karafuto Sekiyu K. K. produced a total of 70,000 tons of petroleum during the period of October 1926 to end of September 1927, which is just about the original estimate. Of this, 50,000 tons have been shipped to Japan proper and the balance is stored at the field. The business of the company was fairly good during the period from the end of March (the end of the first fiscal year) to the beginning of September, but production has fallen off since that time. At the beginning of the year fourteen wells were producing at the No. 18 (Oha) Field which increased to nineteen wells, with an increase in production during the same time from 100/120 tons a day to 282 tons at the beginning of September, dropping to 200 tons during the first part of November and reported to be averaging 250 tons at the present time.

Production of oil at the field from the beginning of October to the end of the shipping season next year is estimated at 150,000 (about half the total Japan production), of which 110,000 will be shipped to Japan proper. This company's wells are located on the eastern coast where the shipping season is limited to about four months from June to the early part of October. This is two months less than the navigation season enjoyed by the Kita Karafuto Kogyo K.K. on the western coast. In addition, during this year's season the weather was very rough during September and it was impossible to keep the port open for any long period of time. This will reduce revenue reports for the half year ending September 30 as the increased production at the end of the term is still stored at the production center. Of the 50,000 tons shipped (some reports state 52,000 tons) 500 tons was sold to the Nippon Oil Company and the balance was taken by the Navy Department.

The company plans to overcome some of the difficulties of transportation by building a new 8-in. pipe line between the field and the shipping port, a distance of one mile under the sea. This is in addition to the present 4" line and will increase loading and storing capacity to 6,000 tons a day.

The present tank capacity of 82,000 tons will be increased by 40,000 tons next year in order to take care of expected production increases. Twelve new wells will also be sunk next year, and seven new wells to be completed before the end of March next year, bringing to total to 35 wells. New prospecting will also be undertaken at the Nuto (?) Oil Field covering an area of 1,000 square Versts (Russian miles).

Kokura may be Site of New Asano Cement Plant.—Mr. Soichiro Asano, President of the Asano Cement Company, is now in Kyushu and is reported to be investigating prospective sites for the new cement mill which is to be built for manufacturing high grade cement there. This mill was part of the plans of the Asano Super High Grade Cement Company which was recently taken over by the parent firm. It is reported that the most probable location of the new mill will be in Kokura City near the harbor, which is most convenient for the receipt of raw materials and shipping of the finished product.

The capacity of the new mill will be little less than that of the company's Moji Mill which has a capacity of about 1,000,000 barrels a year. Construction will follow site selection.

Keio Denki Kido K. K.—Keio Electric Tramway Co., Ltd. The Keio Denki has carried out many improvements and additions to its system during the past year. In addition to the merger with the Gyokunan Denki Tetsudo K. K. on which the company realized a book profit of Y.328,000 the following work has been carried out :

	Yen.
Construction of a new office building at the Shinjuku terminus, and improvement of the station there at a cost of	720,000
Various changes and improvement in the roadbed including correction of slant on curves for higher speed operation, cost	880,000
Additions to car sheds	33,000
Extensions and additions to substation, transmission lines and receiving stations, cost	650,000
Improvement of railway signal equipment,	130,000
New rolling stock and improvement of old,	410,000
Double tracking of part of old Gyokunan Line,	150,000
Change of gauge on Gyokunan Line,	40,000
Amusement and Recreation park (Keio Kaku),	480,000
Extensions to light and power supply equipment,	240,000
Construction of overhead cross-over bridge at Shinjuku terminus,	100,000

The total cost of work carried out amounts to Y.3,830,000 of which Y.3,000,000 has been paid for. The balance of Y.900,000 is to be met by short term loans which will later be redeemed by calling up unpaid capital.

On the basis of reports so far for the term, profit for this period is expected to be about Y.100,000 greater than the same term last year, total say Y.720,000, which is at the rate of 15 per cent. a year in paid-in capital of Y.9,000,000 average for the term.

Most of the improvements recently carried out are not such as to directly increase total revenues, and the rate of profit may show some slight decline in the next few terms. The shares of the Keio Denki Kido are now quoted at Y.82 for fully paid up issues, which is above present prices for Oji Kenki Kido and the Tamagawa Denki Tetsudo, both operating in about the same territory.

A summary of the company's profit for the past few years is as follows :

	Paid-in Capital Yen.	Profit Yen.	Rate of Profit per cent.	Dividend per cent.
1st 1920	1,875,000	136,000	14.6	10
2nd 1920	2,187,000	148,000	13.5	12
1st 1921	2,187,000	161,000	14.8	10
2nd 1921	2,500,000	203,000	16.3	11
1st 1922	2,875,000	221,000	15.3	11
2nd 1922	3,250,000	299,000	18.4	12
1st 1923	3,550,000	325,000	18.3	12
2nd 1923	3,850,000	351,000	19.2	12
1st 1924	4,300,000	410,000	19.1	12
2nd 1924	4,600,000	502,000	21.8	13
1st 1925	5,350,000	527,000	19.7	13
2nd 1925	6,041,000	545,000	18.0	18
1st 1926	7,125,000	620,000	17.4	13
2nd 1926	7,125,000	601,000	16.8	13
1st 1927	8,025,000	614,000	15.3	12

The Company did very well following the earthquake in 1923 on account of the large increase in population in the suburban districts around Tokyo, but the profit rate has begun to show a decrease each term for some time.

Through Traffic Conferences.—The through traffic conference between the Peking-Mukden Railway and the Mukden-Hailung Railway was opened in the Ministry of Communications on November 25. The conference between the Szepingkia-Taonan Railway and the Tahushan-Tungliao branch line of the Peking-Mukden Railway was opened on November 29.

Hokkaido Dento K.K.—The No. 2 Antaroma Power Station of the Hokkaido Dento K.K., located near the Antaroma No. 1, station, capacity 5,882 k.w., was recently completed. The new station has the same capacity as the No. 1.

Shibaura Engineering Works supplied most of the equipment for these two stations.

Commercial Radiograms in China.—Commercial radiograms on and after December 1, 1927, will be accepted by all the radio stations under the control of the Nationalist Government Radio Service of the Military Council. For the first month only half of the regular rates will be charged to encourage the use of radio, and thereafter all radiograms will be charged for at the same rates as fourth class telegrams transmitted by the Chinese Telegraph Administration.

Radio stations have been installed in 16 cities in the Nationalist territory; namely, Canton, Yunnanfu, Foochow, Amoy, Hangchow, Shanghai, Woosung, Nanking, Tsungming Island, Kiukiang, Hankow, Wuchang, Chengchow, Loyang, Taiyuan and Ninghsia. In Shanghai the station is located at Pung Lai Road, West Gate, Native City. The first station was installed in June, 1927, in Nanking by General Chiang Kai-shek, and the other stations have been installed subsequently. The director of the entire service is Lu Lee, and the traffic manager of the Shanghai Station is Z. S. Yu who is concurrently the business manager of the Nationalist Government Radio Works at 862 Avenue Haig. The works are engaged in manufacturing radio sets with imported parts and in installing radio sets in various parts of China.

The works also maintain a training school which was started in June, 1927. The first class was inaugurated in the same month and was graduated in July. The second class started in July, however, was not graduated till the end of November. The school gives three distinct courses. One is devoted to engineering and is open to graduates of colleges. The second is devoted to mechanics and the third to operation of radio sets. Both courses are open only to middle school graduates. The graduates are capable of sending and receiving 80 letters per minute as evidenced by tests made.

All the stations except that at Woosung have short wave lengths. The cost of installing a long wave length station is approximately \$30,000 while that of installing a short wave length station is between \$5,000 and \$8,000. Each station has from 3 to 8 operators, the average monthly overhead per station being \$1,000. The government has appropriated some \$10,000 per month, and the deficit is expected to be made up by revenue from commercial radiograms, now that the stations are not crowded with military messages. Other stations will be installed from time to time.

Tokyo Dento Sale of Enoshima Tramway nears Decision.—Tokyo Dento originally asked Y.1,700,000 for the 6½ miles of electric tramway between Fujisawa and Enoshima, and was offered Y.1,500,000 by Tsunkkichi Ogura. The sale is expected to be made in the near future at Y.1,600,000.

Electrical Development in Central Japan.—The Shin Aichi Shimbun reports that at the end of October there were 193 electric light and power companies operating and 8 companies organized but not yet open to business in the seven prefectures of central Japan including Aichi, Gifu, Miye Nagano, Toyama, Ishikawa and Fukui. This does not include 735 companies, mostly very small, which generate electric power for their own use only, and 57 companies which have plans for supplying their own needs.

According to this report, 776,000 kw. is generated by companies in these prefectures, while 403,000 kw. of uncompleted construction will bring the total to 1,180,000 kw.

Power stations in this territory which have been or will be completed during the present year include:

Nippon Denryoku	Yanagawara	45,000 kw.
Toshin Denki	Kokuro	15,800
Shinano Denki	Takazawa No. 2	9,100
Hakusan Suiryoku	Yoshinotani No. 2	800
Yahagi Suiryoku	Shima	1,600
Okazaki Dento	Ohama Steam	5,000

Power Stations completed and to complete in 1928:

Showa Denryoku	Shokawa No. 2	45,000
Hakusan Suiryoku	Torikoshi (?)	13,000
Tenryugawa Denryoku	Minamimuki	25,000
Azusagawa Denryoku	Kazumizawa	32,000
Nose Denryoku	Kinbara	5,000
Mikawa Suiryoku	Koshido	9,000
Gifu Denryoku	Kanayama	6,000

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Tsimo-Kinkow Motor Road, Shantung.—The motor road between Tsimo and Kinkow, Shantung province, has been constructed and traffic opened, Tsimo is connected with Chengyang by a motor road previously built.

Highway Repairing in Chihli.—The provincial authorities of Chihli have ordered the *hsien* magistrates to repair all motor roads in their respective districts in order to facilitate military transportation.

Citroen Plans New Company and Plant in Yokohama.—The formation of a new company to handle assembly and sales of Citroen motorcars in Japan has been projected for some time, and it is now reported that the company is to be organized and opened to business in the very near future. The new firm will be known as the Nippon Shitoren Jidosha K.K., and is being promoted by Shiro Mori, president of Nichifutsu Shitoren Jidosha K.K. (Japan-France Citroen Motor Car Company, Ltd.) among others. The capital will be Y.2,500,000. An assembly plant covering 4,000 tsubo will be built at some location in Yokohama, capacity 30 cars a day of all types, touring, closed, trucks and busses.

Mines Inspection in China.—By order of the Civil Governor of the Chinese province of Chihli, an Inspectorate General of Mines in Chihli Province has recently been formed for the protection and development of mining enterprises in the province. Chihli is rich in mineral deposits, equal in extent almost to that of the whole country, and covering an area of several hundred square miles, extending from the mountain ranges of Chang-Pai Shan in the East (Mongolia) to Tai-Hang Shan in the West (Shansi). The Inspectorate will now assume the responsibility of encouraging and protecting the mining industry, and as a preliminary step a number of officials have been sent out to investigate present conditions. All mining areas that are not worked or have stopped working, will be taken up and considered along modern lines for operation. Existing mines will be given attention for improvement, so as to obtain full benefit of the natural resources. Transportation facilities are also to be arranged for by efficient handling of rolling stock.

Private Railway License Applications.—Under the encouragement of the present Ministry of Railways, applications for rights to construct private line continue to increase. Applications filed up to the end of October number 253 local railways with a total mileage of 3,315 miles, while applications for tramway line number 149, covering 1,002 miles. This is an increase of 65 applications over the same period last year. Licenses granted during the past few years include 369 miles in 1924, 261 miles in 1925, 460 miles in 1926, while a total of 600 miles is expected to be licensed before the end of this year. The increase of the government railways is at the rate of 200 miles a year, while 176 miles have already been completed this year. Some new local railway licenses include: SHONAN DENKI TETSUDO K.K. 6 miles, for Ropposho Mura, Kuragi County to Kamakura Machi, Kamakura County, Kanagawas, Y.2,550,000. CHOHOKU TETSUDO K.K., 22 miles 40 chains from Kitashiro Mura, Kita Adzumi County to Nagano City, estimated cost not given. HAKONE TOCHI K.K. 2 miles, 50 chains, at Higashi Murayama, Y.400,000.

Production of Iron and Steel in October.—The Department of Commerce and Industry reports the production of iron and steel in Japan during October, 1927, as follows:

	Production	Compared with September
Pig iron	106,491 tons	7,487 tons increase
Steel	150,410	18,874
Steel materials ..	132,703	18,887

Steel Materials:

Sheets: 160.7 mm and under ..	6,512 tons
Other sheets	25,454
Billets	6,143 tons
Bars	42,929
Shapes	18,932
Rails	20,315
Wire rods	2,302
Pipe and Tubes	4,996
Other	5,120

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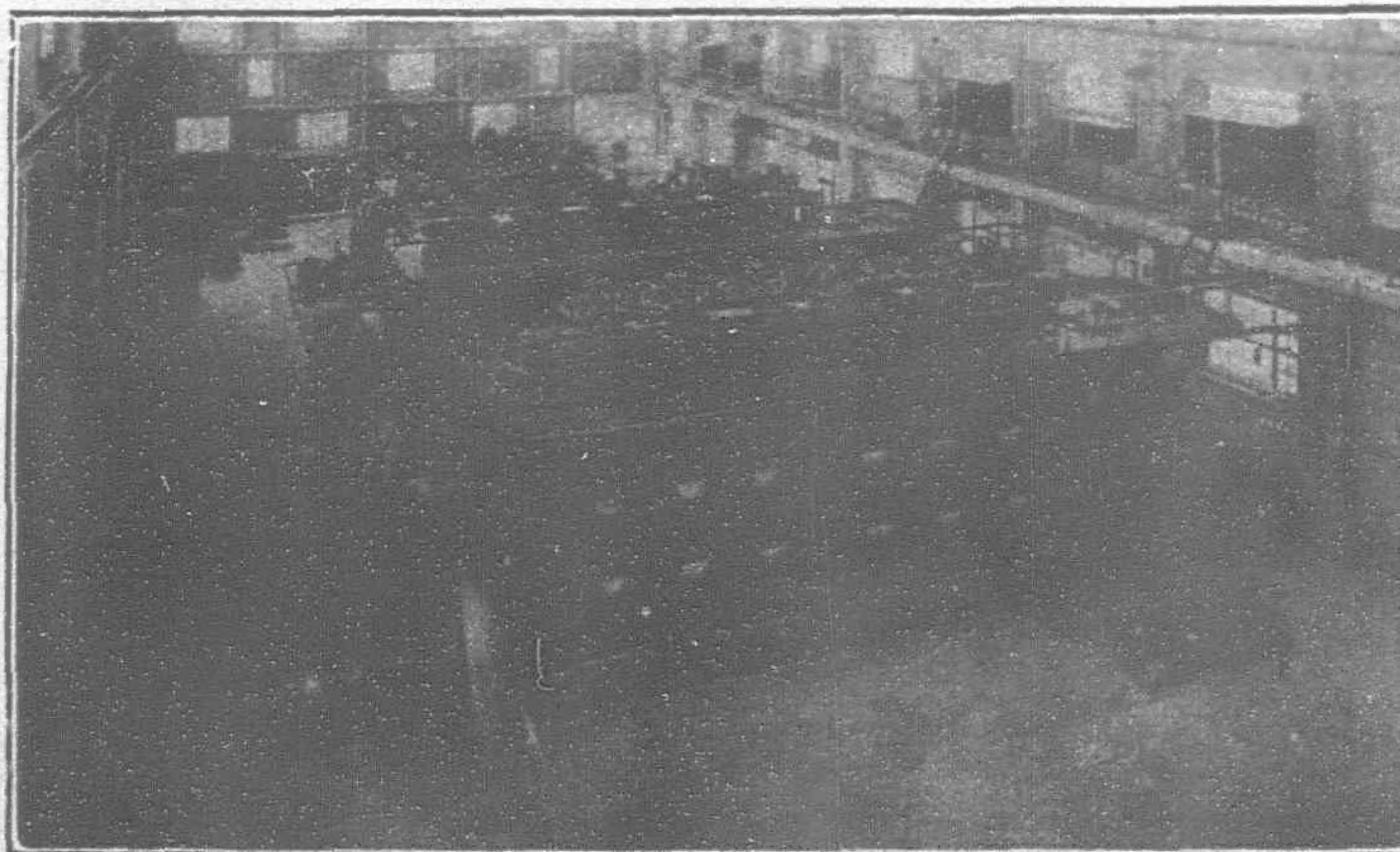
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